

**N.J.S.A. 21:1A-128 et. seq. EXPLOSIVES AND FIREWORKS**

**21:1A-128 Short title**

This act shall be known and may be cited as the "Explosives Act."

**21:1A-129 Definitions**

As used in this act unless the context clearly indicates otherwise:

- (a) "Act" means this act and rules and regulations promulgated hereunder.
- (b) "Commissioner" means the Commissioner of the Department of Labor and Industry or his authorized representative.
- (c) "Barricaded" means that a building containing explosives is effectively screened from a magazine, inhabited building, railway or highway, either by a natural barricade or by an artificial barricade of such height that a straight line from the top of any sidewall of a building containing explosives to the eave line of any magazine or inhabited building or to a point 12 feet above the center of a railway or highway, will pass through such intervening natural or artificial barricade.
- (d) "Artificial barricade" means an artificial mound or properly revetted wall of earth of a minimum thickness of 3 feet.
- (e) "Natural barricade" means natural features of the ground including but not limited to hills, or timber of sufficient density so that the surrounding exposures which require protection cannot be seen from the magazine containing explosives when the trees are bare of leaves.
- (f) "Explosives" means any chemical compound or mixture that is commonly used or intended for the purpose of producing an explosion, that contains any oxidizing and combustible materials or other ingredients, in such proportions, quantities or packing that an ignition by fire, by friction, by concussion or by detonation of any part of the compound or mixture may cause such a sudden generation of highly heated gases that the resultant gaseous pressures are capable of producing destructive effects on contiguous objects. The term "explosives" shall include, but is not limited to commercial explosives, propellants and nitro-carbo-nitrates. The term "explosives", except as specifically stated in this act, shall not include small arms ammunition, explosives in the forms prescribed by the official United States Pharmacopoeia, or fireworks regulated under Revised Statutes sections 21:2-1 through 21:2-7.
- (g) "Commercial explosives" means all explosives except propellants and nitro-carbo-nitrates, including, but not limited to, dynamite, black blasting powder, pellet powder, initiating explosives, blasting caps, electric blasting caps, safety fuses, fuse igniters fuse lighters, squibs, cordeau detonant fuses, instantaneous fuses, igniter cord and igniters.
- (h) "Propellants" means solid chemicals or solid chemical mixtures which function by rapid combustion of successive layers and include, but are not limited to, smokeless powder for small arms, smokeless powder for cannon, smokeless powder or solid propellants for rockets, jet thrust units, or other devices.
- (i) "Nitro-carbo-nitrate" means a mixture intended for blasting consisting substantially of inorganic nitrates and carbonaceous combustibles in which none of the ingredients is a commercial explosive and the finished product, as mixed and packaged for use or shipment, cannot be detonated by the test procedure established by rules and regulations promulgated under this act.
- (j) "Explosives manufacturing establishment" means all lands, and buildings situated thereon, used in connection with the manufacture of explosives.
- (k) "Explosives manufacturing building" means any building or other structure, except magazines, in which the manufacture of explosives is carried on.
- (l) "Magazine" means any building or structure used for the storage of explosives but shall not mean an explosives manufacturing building.
- (m) "Inhabited building" means a building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store or other structure where people are accustomed to assemble, except any building or structure occupied in connection with the manufacture, transportation, storage or use of explosives.

(n) "Highway" means any public street, road, highway, alley or those parts of navigable streams which are used as highways of commerce.

(o) "Public conveyance" means any transportation facility which is carrying passengers for hire.

(p) "Person" means any natural person, partnership, firm, association or corporation.

(q) "Railway" shall mean and include any steam, electric or other railroad or railway which carries passengers for hire on the particular line or branch in the vicinity where explosives storage magazines or explosives manufacturing buildings are situated, but shall not include auxiliary tracks, spurs and sidings installed and primarily used for transporting freight.

## **21:1A-130 Enforcement**

The commissioner shall enforce the provisions of this act, make complaints against persons violating its provisions, and prosecute violations of the same. The commissioner and any authorized person acting under him shall have authority to enter and inspect any place or establishment covered by this act. If upon inspection the commissioner discovers a condition which exists in violation of the provision of this act or if the commissioner determines that certain precautions are reasonably necessary for the safety of workers and the public and the protection of property, he shall be authorized to order such violation to cease or such precaution to be taken. The order shall state the items which are in violation of the provisions of the act or the precautions which he deems reasonably necessary to be taken, and shall provide a reasonable specified time within which the required action must be taken by the person responsible. If the violation or the lack of certain precautions constitutes an imminent hazard and the commissioner's order is not obeyed, the commissioner may apply for an injunction in the Superior Court of New Jersey. Nothing herein shall be deemed to prevent the commissioner from prosecuting any violation of this act, notwithstanding that such violations are corrected in accordance with his order.

The Division of State Police, Department of Law and Public Safety shall have concurrent enforcement power with regard to the transportation of explosives on any highway as defined in this act.

Any person aggrieved by an order or act of the commission under this act may, upon application made within 15 days after notice thereof, be entitled to a hearing before the commissioner who shall within 30 days after submission of the application hold a hearing of which at least 15 days written notice shall be given to all interested parties. The commissioner, upon application therefor, may stay the operation of the order complained of pending his final determination upon such terms and conditions as he may deem proper. Within 30 days after the said hearing the commissioner shall issue an appropriate order modifying, approving or disapproving his prior order or act. A copy of such order shall be served upon all interested parties.

## **21:1A-131 Rules and regulations**

The commissioner may make and promulgate rules and regulations necessary to further the purposes of this act. The rules and regulations may include requirements that are not mentioned specifically in this act but which are reasonably necessary for the safety of workers and the public and the protection of property. Such rules and regulations shall have the force and effect of law and shall be enforced in the same manner. The procedure for the promulgation of rules and regulations under this section shall be as follows:

(a) Upon the completion of proposed rules and regulations by the commissioner notice of the proposed promulgation shall be given to all holders of explosive permits. This notice shall be in writing, shall state briefly the purpose of the proposed rules and regulations, shall state that a copy of the proposed rules and regulations may be obtained upon written request to the Department of Labor and Industry and shall state that upon written request to the Commissioner of Labor and Industry, a hearing will be held by the commissioner or his authorized representative for the purpose of hearing recommendations concerning the proposed rules and regulations;

(b) If no hearing is requested, the commissioner shall promulgate the rules and regulations within 60 days of the notice required by section 4(a) of this act.

(c) If a hearing is requested, notice of the hearing shall be sent to all holders of permits. The notice shall state the date, time and place of the hearing.

(d) Within 60 days after the hearing, the commissioner shall promulgate the rules and regulations as originally proposed or with such changes that he, in his discretion, decides to make in view of the recommendations offered at the hearing. No further hearings are required.

#### **21:1A-132 Prohibited acts; exceptions; permit required; records and reports of permittees; disposal of deteriorated or leaking explosives**

It is prohibited for any person to manufacture, store, sell, transport, use, dispose of, or possess explosives in any manner except as permitted under this act. Any person who is not engaged primarily in the manufacture, sale, storage, transportation or use of explosives but who in the course of activities engages in any of the above or uses explosives in any manufacturing process shall be required to comply with the provisions of this act.

A. No person shall sell, deliver, give away or otherwise dispose of any explosives to any persons not in possession of a permit as required by the provisions of this act. No person shall have any explosives in his possession or control without a permit required by this act.

B. Every person holding a permit to manufacture, sell, store or use explosives shall keep such records as may be required by the commissioner, and shall file reports monthly with the commissioner, on a date and in a form to be prescribed by the commissioner, listing amounts of explosives used, sold or otherwise disposed of, during the preceding month and showing inventories on hand, and shall be required to report immediately any loss, by theft or otherwise, of explosives in his possession to the commissioner, who shall immediately forward such information to the Attorney General of the State, provided, however, that where an employer is maintaining such records, his employees holding permits to use explosives, at the discretion of and with the written approval of the commissioner, shall not be required to maintain individual records. Records shall be retained at least until the end of the calendar year next following the year in which the record is made. All such records shall be open to inspection by the commissioner.

C. No person shall handle explosives while under the influence of narcotics or intoxicating liquors.

D. No person shall smoke or have open lights or fire- or flame-producing devices while handling or using explosives or when within 100 feet of any magazine or vehicle containing explosives; provided, however, that this prohibition shall not apply to the use of igniters when preparing to detonate an explosive charge.

E. When deteriorated or leaking explosives are found by the commissioner, he may order them disposed of in the manner he shall direct, at the expense of the possessor.

#### **21:1A-133 Permits for manufacture, sale, storage, transportation or use of explosives**

Any person who shall manufacture, sell, store, transport or use explosives first shall obtain a written or printed permit from the commissioner, which permit shall state specifically the use or uses authorized:

(a) To manufacture----authorizing the manufacture of explosives and storage of materials in process, developmental materials and finished products.

(b) To sell----authorizing the sale of explosives.

(c) To transport----authorizing the transportation of explosives; provided, however, that no permit will be required where such transportation is not on the highways nor where the articles being transported are of laboratory samples; however, such transportation shall otherwise be in conformity with the provisions of this act.

(d) To store----authorizing the purchase and storage of explosives in a specified magazine;

(e) To use----authorizing a person to use explosives for such purposes and under such conditions as are specified on the permit. The commissioner may establish classifications of use of explosives for blasting and other purposes, specifying the privileges and requirements of each classification. Persons holding, or employed by a person holding, a permit to manufacture explosives, and who are engaged in the testing of explosives incident to the manufacture or development thereof shall not be required to obtain a permit to use explosives.

A. No permit shall be required for the storage, transportation or use of smokeless powder which is used by private persons for the hand loading of small arms ammunition and which is not for resale. For this purpose not more than 36 lbs. of smokeless powder and not more than 5 pounds of black powder shall be stored or transported without a permit.

B. Permits shall at all times be readily available to inspection by the commissioner, State Police or local police and fire departments and shall be posted as directed by the commissioner.

C. Permits shall not be transferable.

D. Whenever a permanent storage magazine for which a permit has been issued is moved to a new location, or its physical surroundings are so changed that the magazine comes within the prohibited distances to a highway, railroad or inhabited building, the permit for said magazine shall become invalid and a new permit required.

E. No permittee shall manufacture, sell, transport, store or use explosives except in compliance with the limitations expressed on the permit.

**21:1A-134 Investigation of applicant; permit issued; subject to amendment; information furnished; qualifications; expiration; fees**

Upon receipt of an application for a permit to manufacture, store, sell, transport or use explosives, and before the permit is issued, the commissioner shall make or cause to be made an investigation for the purpose of ascertaining if all applicable requirements of this act have been met. The commissioner shall not issue a permit to manufacture, sell, store, transport or use explosives unless all the requirements of this act have been met. All permits issued in accordance with the provisions of this act shall be subject to any amendments hereafter made to this act.

A. An applicant for a permit shall, at his own expense, furnish whatever pertinent information the commissioner may require in addition to that specified herein. Application forms shall be furnished by the Department of Labor.

B. An applicant for a permit to manufacture, sell, transport, store or use explosives must:

(a) be at least 21 years of age;

(b) have a reasonable understanding of the English language;

(c) present satisfactory evidence of experience in the manufacture, sale, transportation, storage or use of explosives;

(d) demonstrate by written, oral or field examination, as the commissioner may direct, adequate knowledge of the safe manufacture, sale, transportation, storage or use of explosives and of the provisions of this act; and

(e) be of good moral character and must never have been disloyal to the United States; and it shall be within the sole discretion of the commissioner to determine whether an applicant who has been convicted of a crime involving moral turpitude has the good moral character necessary for a permit. It shall also be within the reasonable discretion of the commissioner to deny the issuance of a permit where he concludes, after a full examination of the qualifications of an applicant, that to grant a permit would be dangerous to the health, safety and welfare of the people of the State of New Jersey. The failure of a holder of a permit to maintain the qualifications stated herein shall be good cause for the revocation of the permit.

C. When the applicant for a permit to manufacture, sell, transport, store or use explosives is a firm, association or corporation, the applicant must demonstrate that such activities with regard to explosives will be under the direct supervision of a person who meets the qualifications stated above.

D. Permits shall be valid for one year unless sooner revoked. Permits which expire on July 1, 1960 may be renewed by the commissioner at his discretion for a period of not less than three months nor more than 15 months, and permits renewed after such a period shall thereafter be valid for one year unless sooner revoked. The fee for all permits shall be fixed by the commissioner on a yearly basis or, for periods of less than a year, in amounts proportionately less than the annual fee.

E. The application for any permit must be accompanied by a fee established by regulation in accordance with the following schedule:

(a) To manufacture----not less than \$200 nor more than \$1,000;

(b) To sell----not less than \$25.00 nor more than \$300;

(c) (Deleted by amendment, P.L.1991, c.205).

(d) To store----not less than \$25.00 nor more than \$150.00; but if the explosives are in excess of 30,000 pounds, then the fee shall be not less than \$150.00 nor more than \$750;

(e) To use----not more than \$200;

(f) For storage, transportation, and use of smokeless powder in amounts in excess of 36 pounds, but not in excess of 100 pounds and black powder in amounts in excess of 5 pounds but not in excess of 100 pounds which is used by private persons for the hand loading of small arms ammunition and which is not for resale----not less than \$2.00 nor more than \$10.00; where any such smokeless and black powder is in excess of 100 pounds, the fee shall be increased \$10.00 for each additional 100 pounds, or fraction thereof.

All fees derived from the operation of this act shall be applied toward enforcement and administration costs of the Division of Workplace Standards in the Department of Labor.

**21:1A-135 Manufacturing establishments under jurisdiction of commissioner; plan of establishment kept in main office; contents; filing of plan may be required; quantity and distance table**

All explosives manufacturing establishments shall come under the jurisdiction of the commissioner in accordance with the provisions of Title 34 of the Revised Statutes of the State of New Jersey.

A. A copy of the plan of the explosives manufacturing establishment shall be kept in the main office of the premises of every such establishment and shall be open to inspection by the commissioner. The said plan shall show the location of all explosives manufacturing buildings, the distance they are located from other buildings on the premises and from magazines. Before a permit to manufacture is issued by the commissioner, he may require that such a plan be submitted to him in triplicate for approval.

B. All commercial explosives manufacturing buildings shall be located one from the other and from other buildings of the explosives manufacturing establishment in which persons are regularly employed, and all commercial explosives magazines shall be located from explosives manufacturing buildings and other buildings of the explosives manufacturing establishment in which persons are regularly employed, in conformity with the Intra-Explosives Plant Quantity and Distance Table for commercial explosives set forth below.

<b>INTRA EXPLOSIVES PLANT QUANTITY AND DISTANCE TABLE FOR COMMERCIAL EXPLOSIVES</b>			
Quantity of Explosives		Distance in Feet	
Pounds Over	Pounds Not Over	Unbarricaded	Barricaded
10	25	40	20
25	50	60	30
50	100	80	40
100	200	100	50
200	300	120	60
300	400	130	65
400	500	140	70
500	750	160	80
750	1,000	180	90
1,000	1,500	210	105
1,500	2,000	250	115
2,000	3,000	260	130
3,000	4,000	280	140
4,000	5,000	300	150
5,000	6,000	320	160
6,000	7,000	340	170
7,000	8,000	360	180
8,000	9,000	380	190
9,000	10,000	400	200

10,000	12,500	420	210
12,500	15,000	450	225
15,000	17,500	470	235
17,500	20,000	490	245
20,000	25,000	530	265
25,000	30,000	560	280
30,000	35,000	590	295
35,000	40,000	620	310
40,000	45,000	640	320
45,000	50,000	660	330
50,000	55,000	690	340
55,000	60,000	700	350
60,000	65,000	720	360
65,000	70,000	740	370
70,000	75,000	770	385
75,000	80,000	780	390
80,000	85,000	790	395
85,000	90,000	800	400
90,000	95,000	820	410
95,000	100,000	830	415
100,000	125,000	900	450
125,000	150,000	950	475
150,000	175,000	1,000	500
175,000	200,000	1,050	525
200,000	225,000	1,100	550
225,000	250,000	1,150	575
250,000	275,000	1,200	600
275,000	300,000	1,270	635

Note: Ten (10) pounds or less may be stored in a separate building or in storage space properly separated by substantial dividing walls.

All explosives manufacturing buildings and magazines in which explosives are had, kept or stored must be located at distances from inhabited buildings, railways and public highways in conformity with the Tables of Distance established pursuant to section 9G of this act.

#### **21:1A-136 Magazines; requirements**

All explosives, except those in the process of manufacture or being transported or used as permitted by this act, shall be stored in a magazine complying with the requirements of this act.

A. All magazines shall be in charge of a competent person who shall be at least 21 years of age. The holder of the storage permit shall be held responsible for compliance with all safety precautions.

B. All magazines shall be well ventilated, clean, dry and free of grit, paper, rubbish and any combustible material other than explosives or the cases containing them.

C. All magazines shall be kept closed and locked except when necessarily opened for the lawful purpose of storing or removing explosives, for inspections, or by persons lawfully entitled to enter same.

D. No container of explosives shall at any time be opened in or within 50 feet of any magazine, nor shall any explosives be kept in any magazine except in closed containers.

E. The commissioner is hereby authorized to deny a permit for a magazine which in his judgment is unsuited for the storage of explosives. The commissioner may require plans for magazines to be submitted for approval before the magazines are constructed and used.

F. Magazines shall not be provided with artificial heat or internal lighting except by approved portable electric safety battery lamps. Underground magazines may be provided with explosion proof lights where all wiring is in conduits and the switch is located outside of the magazine.

G. All magazines in which explosives are stored, except those in explosives manufacturing establishments, shall conform with the Tables of Distance for storage of explosives established by regulations promulgated under this act.

H. The commissioner shall state on each storage permit the maximum amount of explosives that may be stored under that permit. No quantity of explosives in excess of that amount shall be stored under the permit. In any event no quantity in excess of 300,000 pounds of commercial explosives and no quantity in excess of 20,000,000 blasting caps shall be kept or stored in any magazine.

I. Nitro-carbo-nitrates or propellants, or both, may be stored with commercial explosives in the same magazine, but when so stored, all commercial explosives magazine regulations apply, and the quantity of nitro-carbo-nitrate or propellant shall be taken into consideration in computing the total quantity in the magazine for compliance with the quantity and distance tables for commercial explosives established by regulation.

#### **21:1A-137 Transportation of explosives**

A. The person using any vehicle for the transportation of explosives, whether he be the owner or lessee, shall be responsible for the keeping of inspection records required by the commissioner.

B. It is prohibited for any person to transport or carry explosives upon any public conveyance.

C. No explosives shall be transported in any form of full trailer, nor shall any trailer be attached to a vehicle transporting explosives.

D. Vehicles in which explosives are being transported shall be driven by and be under the control of a driver at least 21 years of age. Such a person shall be familiar with the New Jersey laws and rules and regulations pertaining to the transportation of explosives.

E. No quantity of explosives in excess of the quantity indicated upon the transportation permit shall be transported in a vehicle.

F. Blasting caps or electric blasting caps, or both, may be transported in the same vehicle with other commercial explosives only when the net weight of the other commercial explosives does not exceed 5,000 pounds.

G. When nitro-carbo-nitrates or propellants, or both, are transported in the same vehicle with commercial explosives, all requirements governing the transportation of commercial explosives must be followed.

#### **21:1A-138 Blasting operations**

A. Persons authorized to conduct blasting operations and their employers or persons in charge of the operation shall comply with all provisions of this act and rules and regulations promulgated hereunder. No employer shall employ any person to prepare explosive charges or conduct blasting operations unless such person holds a valid permit to use explosives issued by the commissioner, provided however, that

(a) explosives may be used by a miner in underground mining operations without a permit to use explosives if the blasting operations are under the direct supervision of a person in possession of a valid permit.

(b) explosive charges may be prepared by a person at least 18 years of age without a permit to use explosives if such work is done under the direct supervision of a person in possession of a valid permit.

(c) persons not less than 15 years of age shall be permitted to assist in the preparation or use of propellants in amateur rocket experimentation when such work is done under the actual control and supervision of a person in possession of a valid permit to use explosives, and in such a manner and place as to insure the safety of persons and property where such work is performed, and in conformity with rules and regulations promulgated under this act.

B. The amount of explosives taken into a blast area shall never exceed the amount estimated by the blaster as necessary for the blast.

C. When commercial explosives are used in conjunction with nitro-carbo-nitrates, all safety precautions and rules and regulations for commercial explosives shall be observed.

D. Except when nitro-carbo-nitrates are mixed at the site of the blast for immediate use, any such mixing shall be deemed to be manufacturing of explosives and shall be subject to all applicable provisions relating thereto.

#### **21:1A-139 Jurisdiction of commissioner; law governing manufacture, sale, transportation, storage or use of explosives**

The commissioner shall have exclusive jurisdiction over the regulation of the manufacture, sale, transportation, storage and use of explosives. This act shall supersede any existing ordinance, by-law or resolution of any municipality or other governmental subdivision pertaining to the manufacture, sale, transportation, storage or use of explosives.

#### **21:1A-140 Violations; penalties; revocation of permits; nonconforming uses**

It shall be unlawful for any person, partnership, firm, association or corporation, and any officer, agent or employee thereof, to violate or proximately contribute to the violation of any of the provisions of this act or of the regulations made hereunder. The violation of this act by an employee, acting within the scope of his authority, of any person, partnership, firm, association, or corporation shall be deemed also to be the violation of such person, partnership, firm, association or corporation. Violations of the provisions of this act or rules and regulations made hereunder shall be punishable for the first offense by a penalty of not less than \$100 nor more than \$5,000, for the second offense by a penalty of not less than \$300 nor more than \$5,000 and for the third and each succeeding offense by a penalty of not less than \$500 nor more than \$10,000. The penalties shall be collected by a civil action in the name of the commissioner, to be instituted in the Special Civil Part, Law Division, of the Superior Court of the county, or in municipal court of the municipality where the offense was committed. Where the violation consists of a refusal to obey an order of the commissioner made under this act, each day during which the violation continues shall constitute a separate and distinct offense except during the time an appeal from said order may be taken or is pending.

Any sum collected as a penalty pursuant to this section shall be applied toward enforcement and administration costs of the Division of Workplace Standards in the Department of Labor.

A. The Commissioner of Labor, in his discretion, is hereby authorized and empowered to compromise and settle any claim for a penalty under this section for an amount that appears appropriate and equitable under all of the circumstances.

B. Permits to sell, transport, store or use explosives are revocable for cause by the commissioner. In any case where the commissioner revokes a permit, he shall notify the permittee of the revocation and shall provide, upon written request, for a hearing within 10 days of the date of the revocation. Within 30 days from the termination of the hearing, the commissioner shall issue an order approving, disapproving or modifying the revocation. Permits to manufacture are exempt from revocation, but the holders of such permits shall be subject in every other respect to the provisions of this act and the rules and regulations promulgated hereunder.

C. The requirements of this act concerning the distances of explosives manufacturing buildings and magazines from each other shall not be construed to apply to permanent buildings or magazines that exist at the time that this act becomes effective and which buildings and magazines have been used under authority of the laws formerly governing the manufacture and storage of explosives. This provision designating such explosives manufacturing buildings and magazines already existing at the effective date of this act as nonconforming uses shall not apply to any explosives manufacturing buildings or magazines constructed subsequent to the passage of this act nor to extensions or additions to such buildings and magazines that are made subsequent to the passage of this act.

#### **21:1A-141 Exemptions**

Nothing contained in this act shall be construed as applying to the military or naval forces of the United States or its allies, or the duly authorized militia of any State, nor to the police or fire departments of this State, providing the same are acting in their official capacity and in the performance of their public duties.

A. Nothing contained in this act shall be construed as applying to explosives which are in transit upon vessels, railroad cars or vehicles or while being held for delivery, when such transportation and delivery are under the jurisdiction of and in



conformity with regulations adopted by the Interstate Commerce Commission, the United States Coast Guard or the Civil Aeronautics Board, and provided, further, that nothing in this act shall be construed as applying to the receipt, possession, and use of signals required for the safe operation of vessels, motor vehicles, railroad cars, or aircraft by the operators of such vessels, motor vehicles, railroad cars or aircraft.

#### **21:1A-142 Possession of explosives or bombs for unlawful purpose**

Any person who shall have in his possession or control any explosives, including any bomb, shell or similar device filled with one or more explosives, intending to use the same or cause the same to be used or who has used the same for an unlawful purpose shall be guilty of a high misdemeanor, and upon conviction shall be punished by imprisonment in a State prison for a term of not more than 25 years. The possession of explosives or any bomb, shell or similar device filled with explosives, without a permit as required by this act, shall be evidence of an intent to use the same or cause the same to be used for an unlawful purpose. Unlawful purpose shall mean a purpose that cannot be authorized under the provisions of this act.

#### **21:1A-143 Partial invalidity**

If any provision of this act is adjudged unconstitutional or invalid for any reason, such adjudication shall not affect any of the other provisions of this act.

#### **21:1A-144 Repeals**

The following statutes are hereby repealed:

P.L.1941, c. 27 (approved March 28, 1941) and all amendments and supplements thereto.  
Sections 34:5-24 through 34:5-32 of the Revised Statutes.  
Sections 21:1-41 through 21:1-44 of the Revised Statutes.  
Sections 21:1-50 and 21:1-51 of the Revised Statutes.

The repeal of any statute herein shall not be deemed to revive any act previously repealed by any such statute.

***N.J.A.C. 12:190-1.1 et. seq. TITLE 12. DEPARTMENT OF LABOR***

**CHAPTER 190. EXPLOSIVES**

**SUBCHAPTER 1. GENERAL PROVISIONS**

**12:190-1.1 Title and citation**

This regulation shall be known and may be cited as Chapter 190, Explosives of Title 12, N.J.A.C.

**12:190-1.2 Purpose**

The purpose of this chapter is to protect the public and property by establishing reasonable standards for the manufacture, sale, transportation, storage, use, possession and disposition of explosives.

**12:190-1.3 Scope**

(a) This chapter shall apply to every person who manufactures, sells, transports, stores, uses or possesses explosives, except as provided in (b) below.

(b) This chapter shall not apply to:

1. The military or naval forces of the United States or its allies, or the duly authorized militia of any state, nor to the police or fire departments of this State, providing the same are acting in their official capacity and in the performance of their public duties;
2. Transportation of explosives in interstate or intrastate commerce;
3. Model rocketry;
4. Employee safety subject to the Occupational Safety and Health Act, 29 USC 651 et seq.;
5. Fireworks subject to *N.J.S.A. 21:2-1* through *21:2-7*;
6. Small arms ammunition; and
7. Explosives in the forms prescribed by the official U.S. Pharmacopoeia, USPC-1980, 20th edition.

**12:190-1.4 Documents referred to by reference**

The availability of standards and publications referred to in this chapter is explained in N.J.A.C. 12:190-12.

**12:190-1.5 Validity**

Should any section, paragraph, sentence or word of this chapter be declared for any reason to be invalid, such decision shall not affect the remaining portions of this chapter.

**12:190-1.6 Exceptions**

In cases of practical difficulty or unnecessary hardship the commissioner may grant exceptions from this chapter provided that a request for such exceptions has been made in writing. Exceptions shall only be granted when it is clearly evident that a satisfactory and safe condition is attained, but shall not be granted in any case where conflict would be created with mandatory requirements of the act.

**12:190-1.7 Existing installations**

(a) Installations that were in accordance with the applicable chapters on explosives of Title 12, N.J.A.C. prior to the effective date of this chapter may be continued in service if found by the appropriate officials of the Division of Workplace Standards to be in a safe condition.

(b) The maintenance of existing installations shall be in accordance with this chapter and any replacements thereof shall be in conformity with this chapter.

**12:190-1.8 Security and safety of explosives**

(a) The manufacture of any explosive material shall be prohibited unless such manufacture is authorized by Federal license, when required, and is conducted in accordance with recognized safe practices.

(b) No person shall manufacture, store, sell, transport, use, dispose of, or possess explosives in any manner that creates a recognized hazard that is causing or is likely to cause physical harm to any person or property.

(c) The commissioner may restrict the quantity of explosive materials that may be handled at any location.

(d) All explosives materials and newly developed and unclassified explosives shall meet the provisions of this chapter.

(e) Every person who manufactures, sells, transports, stores, uses, disposes or possesses explosives shall take the following precautions:

1. Suspend operations at the approach of and during an electrical storm;
2. Comply with Radio-Frequency Radiation Hazards, IME Safety Library Publication No. 20-1978;
3. Have testing performed for extraneous electric currents by a competent person using instrumentation designed for the purpose when any operation is in the vicinity of high voltage electric lines;
4. Utilize only approved testing equipment for use in connection with electric detonators; and
5. Utilize only effective grounding methods to eliminate the buildup of static electric charges.

(f) Every person who manufactures, sells, transports, stores, uses or possesses explosives shall not permit:

1. Smoking, unguarded lights, fire, or flame producing devices, except devices specifically designed for use with explosives, within 100 feet of any explosive; and
2. Any person under his control to stay in the danger zone when there is imminent danger of explosives detonating from any source of fire.

(g) Every person who manufactures, sells, transports, stores, uses or possesses explosives shall have such explosives accounted for at all times; and any such explosives shall not be abandoned, buried or covered over by any materials as a means of disposal.

(h) The manufacturer's markings or labels on explosives shall not be changed or destroyed, except by detonation during use or disposal.

(i) No person, other than security or law enforcement personnel, shall carry firearms in the immediate vicinity of explosives.

(j) Any person holding a permit in accordance with N.J.A.C. 12:190-3 shall prohibit any person under the influence of alcohol, narcotics or other dangerous drugs from performing any activity associated with the explosives under his or her control.

## **12:190-1.9 Jurisdiction**

The Commissioner shall have jurisdiction over the manufacture, sale, transportation, storage, disposition, possession and use of explosives in accordance with *N.J.S.A. 21:1A-139* and *21:1A-141*.

## **SUBCHAPTER 2. DEFINITIONS**

### **12:190-2.1 Definitions**

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Acceptor" means a charge of explosives or blasting agent receiving an impulse from an exploding donor charge.

"Act" means the Explosive Act, *N.J.S.A. 21:1A-128* et seq.

"Air Blast" means the airborne shock wave or acoustic transient generated by an explosion.

"Ammunition primer" means a device used to ignite the powder charges of ammunition.

"Approved" means acceptable to the commissioner.

"Artificial barricade" means an artificial mound or properly revetted wall of earth of a minimum thickness of three feet at the top of the berm with the exception of Table 5.16.

"Barricaded" means that a building containing explosives is effectively screened from a magazine, inhabited building, railway or highway, either by a natural barricade or by an artificial barricade of such height that a straight line from the top of any side wall of a building containing explosives to the eave line of any magazine or inhabited building or to a point 12 feet above the center of a railway or highway, will pass through such intervening natural or artificial barricade.

"Black powder" means a deflagrating or low explosive compound composed of an intimate mixture of sulfur, charcoal, and an earth nitrate usually potassium nitrate or sodium nitrate.

"Blast area" means the area of a blast including the area immediately adjacent, within the normal throw of the detonated material within the confines of the property boundaries.

"Blaster" means a person who holds a valid permit to use explosives in New Jersey.

"Blasting" means the breaking up of heavy masses of material through use of explosives.

"Blasting agent" means any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 blasting cap when unconfined.

"Blasting cap" means a detonator.

"Blasting machine" means an electrical or electromechanical device which provides electrical energy for the purpose of energizing electric blasting caps.

"Blasting mat" means a mat of woven steel wire, rope, scrap tires or other suitable material or construction to cover blast holes for the purpose of preventing fly rock missiles.

"Building" see definition of "construction."

"Bulk mix delivery motor vehicle" means a motor vehicle that transports explosives, blasting agents or ingredients for explosive material in bulk form for mixing and loading directly into blast holes.

"Bullet-resistant" means magazine walls or doors of construction resistant to penetration of a bullet of 150-grain M2 ball ammunition having a nominal muzzle velocity of 2700 feet per second fired from a 0.30 caliber rifle from a distance of 100 feet perpendicular to the wall or door. When a magazine ceiling or roof is required to be "bullet-resistant", the ceiling or roof shall be constructed of materials comparable to the side walls or of other materials which will withstand penetration of the bullet above described when fired at an angle of 45 degrees from the perpendicular.

"Bullet-sensitive explosive material" means material that can be detonated by 150-grain M2 ball ammunition having a nominal muzzle velocity of 2700 feet per second when the bullet is fired from a .30 caliber rifle at a distance of not more than 100 feet and the test material, at a temperature of 70 to 75 degrees F., is placed against a backing material of 1/2 - inch steel plate.

"Burden" means that dimension of a medium to be blasted measured from the borehole to the face at right angles to the spacing. It means also the total amount of material to be blasted by a given hole, usually measured in cubic yards or in tons.

"Bureau of Explosives" means Bureau of Explosives of the Association of American Railroads.

"CFR" means Code of Federal Regulations in effect on the effective date this chapter was last amended.

"Class A explosive" means an explosive possessing detonating or maximum hazard and means an explosive which is described in section 53 of 49 CFR Part 173.

"Class B explosive" means an explosive possessing flammable hazard such as propellant explosives and photographic flash powders and means an explosive described in 49 CFR Part 171.

"Class C explosive" means certain types of manufactured articles which contain class A, or class B explosives, or both, as components but in restricted quantities, and certain types of fireworks and means an explosive described in 49 CFR Part 171.

"Commercial explosive" means any explosive except a propellant and nitro-carbo-nitrate, including, but not limited to, dynamite black blasting powder, pellet powder, initiating explosive, blasting cap, electric blasting cap, safety fuse, fuse igniter, fuse lighter, squib, cordeau detonant fuse, instantaneous fuse, igniter cord and igniter.

"Commissioner" means the Commissioner of Labor or his authorized designee.

"Competent person" means a person possessing ability and experience that fully qualify him to perform the duty associated with explosives to which he is assigned or has assumed.

"Construction" means an assembly of material to form a building or structure for occupancy or use. "Building" includes an assembly, business, factory, industrial, high hazard, institutional, mercantile, residential or storage occupancy. "Structure" includes among others a stadium, a reviewing stand, an observation tower, a radio tower, a water tank, a bridge, a trestle, or a display sign.

"Construction official" means a qualified person appointed by the municipal appointing authority to enforce and administer legal issues within the jurisdiction of the municipality.

"Container" means in *N.J.A.C. 12:190-5.20* a receptacle to move explosives in underground mining operations from magazines to the work force in the mine.

"Delay interval" means the time interval in milliseconds between successive detonations of the delay devices used.

"Demolition" means any work involving the use of explosives in the total or partial dismantling or razing of any construction.

"Detonating cord" means a flexible cord containing a center core of high explosive and used to detonate other explosives.

"Detonating fuse" means a detonating system used in the military to detonate high explosive bursting charges of projectiles, mines, bombs, torpedoes, and grenades. In addition to a powerful detonator, they may contain several ounces of a high explosive, all assembled in a heavy steel envelope.

"Detonator" means any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating-cord delay connectors, and non-electric instantaneous or delay blasting caps.

"Division of Workplace Standards" means the Division of Workplace Standards in the New Jersey Department of Labor, PO Box 386, Trenton, New Jersey 08625-0386.

"Donor" means an exploding charge producing an impulse that impinges upon an explosive "acceptor" charge.

"Electric detonator" means a blasting cap designed for, and capable of, initiation by means of an electric current.

"Employee" means any person, including supervisory personnel, suffered or permitted to work by an employer; or a member of either a board, corporation, partnership, proprietorship, joint venture, fund, authority or similar entity directly performing explosives work.

"Employer" means a body, board, person, corporation, partnership, proprietorship, joint venture, fund, authority or similar entity employing, permitting or suffering another to work or directly performing the explosives work. In the case of a corporation, the officers of the corporation and any agents having the management of the corporation shall be deemed to be employers of the employees of the corporation. This term shall apply to private employers and to the State, its political subdivisions and any boards, commissions, schools, institutions or authorities created or recognized thereby. This term also includes contractors and subcontractors.

"Explosive" means any chemical compound or mixture that is commonly used or intended for the purpose of producing an explosion, that contains any oxidizing and combustible materials or other ingredients, in such proportions, quantities or packing that an ignition by fire, by friction, by concussion or by detonation of any part of the compound or mixture may cause such a sudden generation of highly heated gases that the resultant gaseous pressure is capable of producing destructive effects on contiguous objects.

1. The term "explosive" includes, but is not limited to:
  - i. A commercial explosive, propellant or nitro-carbo-nitrate;
  - ii. A high explosive or a low explosive; and
  - iii. An explosive material, blasting agent, water gel or detonator.
2. The term "explosive," except as specifically stated in the act, does not include:
  - i. Small arms ammunition;
  - ii. An explosive in a form prescribed by the United States Pharmacopoeia; or
  - iii. Fireworks regulated under Manufacture, Storage and Transportation of Fireworks, *N.J.S.A. 21:2-1* through *21:2-7*.

"Explosive material" means an explosive.

"Explosive manufacturing building" means any building or other structure, except magazines, in which the manufacture of explosives is carried on.

"Explosive manufacturing establishment" means all lands, and buildings situated thereon, used in connection with the manufacture of explosives.

"Fireworks" means any combustible or explosive composition, or any substance or combination of substances, or articles prepared for the purpose of producing a visible or audible effect by combustion, explosion, deflagration or detonation.

"Flammable liquid" means any liquid with a flash point less than 100 degrees F as measured by tests specified in section 173.115 of 49 CFR part 173, except: a flammable liquid with a vapor pressure greater than 40 psia at 100 degrees F., a liquid mixture containing one percent or less flammable components, and a water-alcohol solution containing 24 percent or less alcohol.

"Flammable solid" means any material, other than an explosive, which is liable to cause fires through friction, absorption of moisture, spontaneous chemical changes, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard.

"Fly rock" means dirt, rock, concrete, wood, brick, water or any other material that is propelled from the job site or blast area by the force of an explosion.

"Fuel" means a substance that may react with the oxygen in the air or with the oxygen or other oxidizing material yielded by an oxidizer to produce combustion.

"Fume classification" means a classification indicating the amount of poisonous or toxic gases produced by an explosive or blasting agent.

"Hardwood" means oak, maple, ash, hickory, or other hardwood, free from loose knots, spaces, or similar defects.

"Hertz" means cycles per second.

"High explosive" means any explosive material which can be caused to detonate by means of a blasting cap, when unconfined.

"Highway" means any public street, road, highway, alley or part of a navigable stream which is used as a highway of commerce.

"IME" means the Institute of Makers of Explosives.

"Inhabited building" means a building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store or other structure where people are accustomed to assemble, except any building or structure occupied in connection with the manufacture, sale, transportation, storage, use, disposal or possession of explosives.

"Job site" means the site where explosives are being used within the property line or right-of-way of any road.

"Initiating primer" means an explosive cartridge with a detonator or initiating agent inserted therein.

"Low explosive" means an explosive material which can be caused to deflagrate when confined.

"Magazine" means any building, structure, or other enclosure or container, other than an explosive manufacturing building used for the storage of explosives as described in N.J.A.C. 12:190-5.

"Misfire" means an explosive material charge that fails to detonate after an attempt at initiation.

"Motor vehicle" means any self propelled vehicle, truck, tractor, semi-trailer, or truck-full trailer used for the transportation of explosives.

"Natural barricade" means natural features of the ground including but not limited to hills, or timber of sufficient density so that the surrounding exposures which require protection cannot be seen from the magazine containing explosives when the trees are bare of leaves.

"NFPA" means National Fire Protection Association.

"N.J.A.C." means the New Jersey Administrative Code.

"N.J.S.A." means the New Jersey Statutes Annotated.

"Nitro-carbo-nitrate" means an explosive classified as a blasting agent.

"No. 8 blasting cap" means a cap containing two grams of a mixture of 80 percent mercury fulminate and 20 percent potassium chlorate, or a cap of equivalent strength.

"Office of Safety Compliance" means the Office of Safety Compliance in the Division of Workplace Standards of the New Jersey Department of Labor, CN 386, Trenton, N.J. 08625, telephone 609-292-2096.

"Oxidizer" means a substance such as nitrate that yields oxygen or other oxidizing substance readily to stimulate the combustion of organic matter or other fuel.

"Oxidizing material" means an oxidizer.

"Peak particle velocity" means the peak particle velocity recorded on any one of the three mutually perpendicular components of blasting vibrations in the vertical and horizontal directions.

"Permit holder" means any person who has obtained a permit to manufacture, sell, store or use explosives.

"Person" means any natural person, partnership, firm, association or corporation.

"Placard" means a sign placed on a motor vehicle transporting explosives or oxidizers indicating the nature of the cargo.

"Plywood" means exterior, construction grade laminated wood.

"Propellant" means any solid chemical or solid chemical mixture which functions by rapid combustion of successive layers and includes, but is not limited to, smokeless powder for small arms, smokeless powder for cannon, smokeless powder or solid propellant for rockets, jet thrust units, or other devices.

"Public conveyance" means any transportation facility which is carrying passengers for hire.

"Railway" means and includes any steam, electric or other railroad or railway which carries passengers for hire on the particular line or branch in the vicinity where explosives storage magazines or explosives manufacturing buildings are situated, but shall not include auxiliary tracks, spurs and sidings installed and primarily used for transporting freight.

"Seismograph" means an instrument which records ground vibration by measuring and recording particle velocity, displacement, or acceleration in three mutually perpendicular directions.

"Semi-conductive hose" means a hose with an electrical resistance high enough to limit flow of stray electric currents to safe levels, yet not so high as to prevent drainage of static electric charges to ground such as hose of not more than two megohms resistance over its entire length and not less than 5,000 ohms per foot.

"Sensitivity" means a physical characteristic of an explosive classifying its ability to detonate upon receiving an external impulse such as impact, shock, flame, or other influences which can cause explosive decomposition.

"Single delay" means a delay in time of eight milliseconds or more.

"Small arms ammunition" means any cartridge for shotgun, rifle, pistol, or revolver, and cartridge for propellant-actuated power devices and industrial guns. Military-type ammunition containing explosive bursting charges, or any incendiary, tracer, spotting or pyrotechnic projectile is excluded from this definition.

"Smokeless propellant" means a solid propellant, commonly called smokeless powder in the trade, used in small arms ammunition, cannon, rockets, or propellant-actuated powder devices.

"Softwood" means fir, pine, or other softwood free from loose knots, spaces, or other similar defects.

"Squib" means a firing device that burns with a flash and is used for igniting black powder or pellet powder.

"Stemming" means an inert material placed in a borehole after the explosive and for the purpose of confining explosive materials or to separate charges of explosive material in the same borehole.

"Stray current" means a flow of electricity outside of the conductor which normally carries it.

"Type 1 magazine" See *N.J.A.C. 12:190-5.2(b)1*.

"Type 2 magazine" See *N.J.A.C. 12:190-5.2(b)2*.

"Type 3 magazine" See *N.J.A.C. 12:190-5.2(b)3*.

"Type 4 magazine" See *N.J.A.C. 12:190-5.2(b)4*.

"Type UG magazine" See *N.J.A.C. 12:190-5.2(b)5*.

"USC" means United States Code.

"USDOT" means United States Department of Transportation.

"Vibration" means the energy from a blast that manifests itself in earthborne vibrations which are transmitted through the earth away from the immediate blast area.

"Water gel" means any of a wide variety of materials used for blasting that contain substantial proportions of water and high proportions of ammonium nitrate, some of which is in solution in the water. Two broad classes of water gels are (a) those which are sensitized by a material classed as an explosive, such as TNT or smokeless powder, and (b) those which contain no ingredient classified as an explosive; these are sensitized with metals such as aluminum or with other fuels. Water gels may be classified as class A explosives, class B explosives or blasting agents.

## **SUBCHAPTER 3. ADMINISTRATION**

### **12:190-3.1 Scope of subchapter**



This subchapter shall apply to the procedures for the issuance of permits, the payment of fees, the recordkeeping required for permit holders, and reporting procedures.

### **12:190-3.2 Permit restrictions**

(a) No person shall manufacture, sell, store or use explosives unless he or she is 21 years of age or older and a permit has been issued as provided in the applicable provisions of this subchapter. Permits shall not be issued to individuals under the age of 21.

(b) No explosives shall be sold, given or delivered to any person not in possession of a permit to store or purchase explosives.

(c) No permit shall be transferable.

(d) No permit holder shall manufacture, sell, transport, store or use explosives which exceed the limitations expressed on the permit.

(e) No permit shall be issued for the sale, storage or use of explosives which are not acceptable to the Commissioner.

(f) No permit shall be issued where the Commissioner concludes, after full examination of the qualifications of an applicant, that to grant a permit would be dangerous to the health, safety and welfare of the public.

(g) The Division of Workplace Standards shall be notified in writing when the permanent address of a person having a permit to use, sell, store or manufacture explosives has been changed. The notice shall be postmarked within 10 days of the change.

### **12:190-3.3 Exemptions from permits**

(a) No permit shall be required for the storage or use of smokeless powder which is used by private persons for the hand loading of small arms ammunition and which is not for resale. For this purpose not more than 36 pounds of smokeless powder and not more than five pounds of black powder shall be stored without a permit.

(b) Persons holding, or employed by a person holding, a permit to manufacture explosives, and who engaged in the testing of explosives incidental to the manufacture or development of explosives, shall not be required to obtain a permit to use explosives.

### **12:190-3.4 Application for permit**

(a) An application for a permit shall be made to the Commissioner on forms provided by him and shall contain all information as the Commissioner may require.

(b) An applicant for a permit shall, at his own expense, furnish whatever pertinent information the Commissioner may require in addition to that specified in this subchapter.

(c) Any false representation made for the purpose of procuring a permit shall be cause for revocation.

(d) Initial applications for a permit to use explosives for blasting purposes shall be accompanied by two recent photographs, two completed fingerprint cards and a testing fee of \$25.00 which shall be applied to the permit fee once a passing grade is obtained.

(e) Upgrade applications for a permit to use explosives for blasting purposes shall be accompanied by a testing fee of \$25.00 which shall be applied to the permit fee once a passing grade is obtained.

(f) Applications for annual renewal of permits shall be mailed or delivered by the Commissioner to the permit holder's address as shown on the previous application.

(g) If an application for renewals is filed with the Commissioner before the expiration of the old permit, the renewal shall become effective when the old permit expires.

(h) Renewal permits shall not be issued more than 30 days prior to the expiration date of current permits.

### **12:190-3.5 Investigation of applicants for permits**

(a) Upon receipt of an application for a permit to manufacture, store, sell, transport or use explosives, and before the permit is issued, the Commissioner shall make or cause to be made an investigation for the purpose of ascertaining if all applicable requirements of this chapter and the Act have been met.

(b) For an initial permit to manufacture, store, sell, or use explosives the Commissioner shall make a determination of "good moral character and loyalty to the United States" referenced in *N.J.A.C. 12:190-3.6*. This determination is based on:

1. Acceptance of the applicant by the Bureau of Alcohol, Tobacco, and Firearms of the United States Department of the Treasury for any activity concerning explosives; or
2. Acceptance of the applicant by the State or local police department for any activity concerning explosives; or
3. Any method acceptable to the Commissioner.

(c) The Commissioner shall not issue a permit to manufacture, sell, store, transport or use explosives when investigation reveals that all the provisions of this chapter and the Act have not been met.

### **12:190-3.6 Qualifications of applicants for permits**

(a) An applicant for a permit to manufacture, sell, store or use explosives shall:

1. Be at least 21 years of age;
2. Have a reasonable understanding of the English language;
3. Present satisfactory evidence of experience in the manufacture, sale, transportation, storage or use of explosives;
4. Demonstrate by written, oral or field examination, as the commission may direct, adequate knowledge of the safe manufacture, sale, transportation, storage or use of explosives, the provisions of this chapter, and the Act;
5. Be of good moral character and must never have been disloyal to the United States; and it shall be within the sole discretion of the Commissioner to determine whether an applicant who has been convicted of a crime involving moral turpitude has the good moral character necessary for a permit;
6. Be free of any physical handicap, illness, addiction to alcohol, narcotics or other dangerous drugs, or uncorrected defect in vision or hearing, that might diminish the competence of the applicant to comply with this chapter;
7. Not have been adjudicated as a mental defective or committed to any mental institution; and
8. Have physical facilities complying with the applicable provisions of this chapter.

(b) When the applicant for a permit to manufacture, sell, store or use explosives is a firm, association or corporation, the applicant shall demonstrate that such activities with regard to explosives will be under the direct supervision of a competent person who meets the qualifications contained in this section.

### **12:190-3.7 Invalidation of permits**

Whenever a permanent storage magazine for which a permit has been issued is moved to a new location, or its physical surroundings are so changed that the magazine comes within the prohibited distances to a highway, railroad or inhabited building, the permit for said magazine shall become invalid and a new permit shall be required.

### **12:190-3.8 Revocation of permits**

(a) A permit for the sale, storage or use of explosives may be revoked by the Commissioner for any of the following reasons:

1. Non-compliance with any order issued by the Commissioner within the time specified in such order;
2. Proof that the permit holder has been convicted of a crime punishable by imprisonment for a term exceeding one year;
3. Proof that a permit holder is disloyal to the United States;
4. Violation by the permit holder of the terms specified on the permit, or essential changes in the conditions under which the permit was issued;
5. Violation by the permit holder of any of the provisions of the Act, or failure to pay a penalty imposed by the Commissioner; or
6. False statements on the application for the permit.

(b) In any case where the Commissioner revokes a permit, he shall notify the permit holder of the revocation. The notice shall state the specific charges upon which the revocation is based and, that upon written request, a hearing before the Commissioner may be held within ten days after the date of the revocation.

(c) If the hearing is held before the Commissioner, he shall state his findings and conclusions in writing and transmit a copy to the permit holder.

(d) Upon notice of the revocation of any permit, the permit holder shall immediately surrender to the Commissioner the permit revoked and all copies thereof.

#### **12:190-3.9 Availability of permits**

Permits shall be readily available at all times to inspection by the Commissioner, local construction official, state police or local police and fire departments, and shall be posted in accordance with the applicable provisions of *N.J.A.C. 12:190-3.12*.

#### **12:190-3.10 Permit class**

(a) The "permit to manufacture" shall authorize the manufacture, possession and storage of explosives in process, development of explosives and finished products. This permit covers the purchase of explosives and ingredients for the manufacture of explosives.

(b) The "permit to sell" shall authorize the purchase, possession and sale of explosives. This permit shall be required of all persons who sell explosives whether or not they physically handle, store or possess explosives. This permit is also required for nonresidents who sell explosives within the State. This permit is required for each location from which explosives are sold.

(c) The "permit to store" shall authorize the purchase of explosives and the storage of explosives in an approved magazine within the quantities expressed on the permit.

(d) The "permit to use" shall authorize the use of explosives for such purposes and under such conditions as are specified on the permit.

(e) The "permit to purchase" shall authorize the purchase of explosives in mining operations only.

#### **12:190-3.11 "Permit to use"**

(a) The applicant for an initial "permit to use" explosives shall demonstrate to the satisfaction of the Commissioner that he has had adequate education, training and experience in the use of explosives in any grade authorized in the applicable permit.

(b) Before a "permit to use" explosives may be issued, the applicant shall pass a qualifying examination given by the Commissioner. The examination may be written, oral or by such other means as necessary to determine that the applicant is competent to conduct blasting operations and to perform the duties for the grade of permit for which the applicant is applying.

(c) Any holder of a "permit to use" explosives who is convicted of a violation of the act may be required to pass a requalifying examination as a condition to the retention of his permit.

(d) Any person whose "permit to use" explosives for blasting purposes has been revoked may be required to pass a qualifying examination before the permit is reinstated.

(e) Any person whose permit has lapsed for a period of three months or more may be required to pass a qualifying examination before renewal of the permit is granted.

(f) No person shall perform any blasting operation other than that which is specified on the permit.

(g) A Grade Q "permit to use" explosives shall authorize the purchase of explosives for mines only when the mine does not have explosive magazines.

(h) The "permit to use" explosives shall be subdivided into grades as listed in Table 3.11(h).

<b>Table 3.11(h)</b> <b>Classification of "Permit to Use"</b>	
Grade	Description
A	All blasting
S-1	All surface rock blasting, or demolition of structures not exceeding 25 feet in height.
S-2	All surface rock blasting, or demolition of structures under 20 feet in height, which is limited to 3,000 pounds of explosives per blast cycle.
S-3	All surface rock blasting, or demolition of structures less than 10 feet in height, which is limited to 1,500 pounds of explosives per blast cycle.
S-4	All surface rock blasting, or structural foundation blasting, which is limited to 500 pounds of explosives per blast cycle.
S-5	All surface rock blasting, or demolition of structural foundations, which is limited to 50 pounds of explosives per blast cycle.
S-6	Restricted to loading explosives into blast holes, preparing primers, and wiring blast circuits, when under the direct supervision of a holder of a "permit to use" of a higher grade.
Q-1	All surface rock blasting in open pit mines and quarries.
Q-2	Restricted to all surface rock blasting in open pit mines and quarries which is limited to 15,000 pounds per blast cycle.
Q-3	Restricted to all surface rock blasting in open pit mines and quarries which is limited to 5,000 pounds per blast cycle.
Q-4	Restricted to all surface rock blasting in open pit mines and quarries which is limited to 3,000 pounds per blast cycle.
Q-5	Restricted to all surface rock blasting in open pit mines and quarries which is limited to 150 pounds per blast cycle.
Q-6	Restricted to all surface rock blasting in open pit mines and quarries limited to loading explosives into blast holes, preparing primers, and wiring blast circuits only when under the direct supervision of a holder of a "permit to use" explosives of a higher grade.
U	Underground rock blasting.
D	All demolition blasting of buildings, smoke stacks, bridges, and other structures.
H	<p>a. Use in a research process as a component part in the manufacture of a product.</p> <p>b. Seismic prospecting or well shooting.</p> <p>c. Test firing of devices containing explosives.</p> <p>d. Other special use described on the face of the permit.</p> <p>A Grade H permit entitles the holder only to that use described on its face.</p>
Q	Authorizes purchase of explosives when such person does not have a permit for permanent storage of explosives in mining operations only.
P	Pyrotechnic specialty permit

(i) An applicant for a "permit to use" explosives in any grade shall have attained experience involving at least 20 blasts utilizing at least 80 percent of the quantity limitations granted by the permit currently held in order to advance to the next higher grade.

(j) An applicant for a D permit shall hold a grade S-1 permit and be able to demonstrate at least 12 months experience in the demolition of constructions.

#### **12:190-3.12 Responsibilities of permit holders**

(a) All holders of a "permit to manufacture, sell, store or use" explosives shall comply with the reporting provisions of this subchapter.

(b) All holders of a "permit to manufacture, sell, store or use" explosives shall post or be in possession of a permit as described in this subsection.

1. The "permit to manufacture" shall be posted in the main office of the explosive manufacturing establishment.
2. The "permit to sell" shall be posted at the location where explosives are sold, and any person who delivers explosives shall have a photocopy of the original "permit to sell" posted in the delivery vehicle.
3. The original copy of the "permit to store" shall be posted in the storage magazine, and a duplicate copy kept on file at the place of business.
4. The "permit to use" shall be in the possession of the permit holder.

(c) Permit holders shall take every reasonable precaution to protect their permits from loss, theft, defacement, destruction or unauthorized duplication.

(d) The loss or theft of any permit shall be immediately reported to the Commissioner.

#### **12:190-3.13 Explosives not permitted**

(a) A "permit to sell, transport, store or use" any of the following explosives shall not be issued:

1. Liquid nitroglycerin;
2. Dynamite (except gelatin dynamite) containing over 60 percent of liquid explosive ingredient;
3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage;
4. Nitrocellulose in a dry uncompressed condition in a quantity greater than ten pounds net weight in one package;
5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden;
6. Explosive compositions that ignite spontaneously or undergo marked decomposition rendering the products or their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167 degrees F;
7. Explosives containing an ammonium salt and a chlorate;
8. New explosives until approved by the USDOT, except that a permit may be granted for transportation and possession for laboratory examination of such explosives when under development by responsible research organizations;
9. Explosives not packed or marked in accordance with the USDOT;
10. Explosives prohibited for transportation by the USDOT; and
11. Explosives prohibited by the Commissioner.

#### **12:190-3.14 Annual fees for permits**

(a) After an application for a permit has been approved, the correct fee shall be forwarded to the appropriate officials of the Division of Workplace Standards.

(b) The check or money order shall be made payable to the Commissioner of Labor and Industry.

(c) A permit shall not be forwarded to the applicant until the fee has been received by the Commissioner.

(d) Fees shall not be refunded when a permit is revoked or abandoned.

(e) The fee for replacing a lost permit shall be \$10.00.

### **12:190-3.15 Recordkeeping for all permit holders**

(a) Every person holding a "permit to manufacture, sell, store or use" explosives shall keep records in accordance with this section.

(b) All records required by this section shall be maintained and be open to inspection by the Commissioner at any time necessary for the protection of miners and the general public's health, safety and welfare and, for the protection of property.

(c) Where an owner is maintaining records complying with this section, the employees holding a "permit to use" explosives shall not be required to maintain individual records.

(d) Where the person holding a "permit to manufacture, sell or store" explosives maintains records for the Bureau of Alcohol, Tobacco and Firearms of the U.S. Department of the Treasury, which substantially comply with this section, the permit holder shall be deemed in compliance with this section, providing the records are available for inspection by the commissioner in accordance with (b) above.

(e) At least one copy of the records required by this section shall be maintained at the address provided on the "permit to manufacture, sell, store or use".

(f) Information from the records required by this section shall be forwarded to the commissioner upon his written request.

(g) Invoices, sales slips, receipts, or similar papers representing individual transactions may be used as temporary records. Information from these records shall be recorded in a permanent record not later than one week from the date following the date of transaction.

(h) The person holding a "permit to manufacture, sell, store or use" explosives shall record the information required by this section and retain a permanent record.

1. Permanent records shall show the name of the supplier, quantities, brand and type, manufacturer's identifying marks and the date of all invoices or transactions.
2. Permanent records shall show the exact disposition of all explosives whether used in manufacturing, sale, or used in blasting or other disposal.
3. Permanent records shall be retained at least five years following the year in which the record was made.

### **12:190-3.16 Recordkeeping for holders of "permit to manufacture"**

(a) In addition to the recordkeeping of *N.J.A.C. 12:190-3.15*, holders of a "permit to manufacture" shall comply with this section.

(b) The permanent record of a person having a "permit to manufacture" explosives shall include the following:

1. The amount and type of explosives acquired;
2. The amount of explosives on hand;
3. The amount and destination of explosives shipped;
4. The dates of transactions; and
5. The names and addresses of suppliers and purchasers of explosives.

(c) Where the information contained in (b) above can be obtained from regular business records, a separate record need not be maintained.

### **12:190-3.17 Recordkeeping for holders of "permit to sell"**

(a) In addition to the recordkeeping of *N.J.A.C. 12:190-3.15*, holders of "permit to sell" shall comply with this section.

(b) The permanent record of a person having a "permit to sell" shall include the following:

1. The amounts and kinds acquired;
2. The names and addresses of the persons from whom acquired and the dates on which acquired;

3. The amounts and kinds sold or otherwise disposed of;
4. The names, addresses and permit numbers and dates of permits of persons to whom sold or otherwise disposed of, and the dates of the sales or other dispositions;
5. The amount and kinds on hand at each location at the end of each day on which there are transactions or operations; and
6. A certified list of names of representatives or agents authorized to accept explosives on behalf of any purchaser.

**12:190-3.18 Recordkeeping for holders of "permit to store" or "Grade Q permit to use"**

(a) In addition to the recordkeeping of *N.J.A.C. 12:190-3.15*, holders of "permit to store", or "Grade Q permit to use" shall comply with this section.

(b) The permanent record of a person having a "permit to store" or a "Grade Q permit to use" shall include the following:

1. The amounts and kinds acquired;
2. The names and addresses of the persons from whom acquired and the dates on which acquired;
3. The amounts and kinds in a continuous inventory record for each magazine; and
4. The amounts and kinds used or otherwise disposed of in the conduct of the business operations.

**12:190-3.19 Recordkeeping for holders of a "permit to use"**

(a) In addition to the recordkeeping of *N.J.A.C. 12:190-3.15*, holders of a "permit to use" explosives shall comply with this section.

(b) The person having a "permit to use" explosives shall maintain a permanent record of each blast. At least one copy of this record shall be maintained at the mining office or construction site. In the absence of a blast site office, the record shall be maintained at the principal place of business of the employer.

(c) The person having a "permit to use" explosives shall maintain a record of each blast which shall include the following:

1. Name and address of person responsible for the project;
2. Name and permit number of blaster in charge;
3. Name, address and specific locations at the address of the blasting project;
4. Identification number for each blast in sequence by project on an annual basis;
5. Date and time of the blast;
6. General type of material blasted;
7. Nature of blasting, such as bank, trench or pre-split;
8. Weather conditions, including wind speed direction, temperature, and sky conditions;
9. Blast hole description, including hole sizes, inclinations, depths, sub-drilling, number of holes, burden spacing, and number of rows of holes;
10. Depth of stemming;
11. Depth and placement locations of decking used;
12. Kind of explosives used;
13. Total amount of explosives used;
14. Maximum amount of explosives fired on any time delay period;
15. The number of holes fired included in the maximum pounds per delay;
16. Number, brand name and type of electric blasting caps used and the number of individual delay periods;
17. Actual firing time where electric delay blasting caps do not fall within the manufacturer's sequence of delay time;
18. Size and total length of detonating cord, when used, delay periods, and type of precaution to deaden sound effects;
19. All pertinent information on delay periods, when other nonelectric initiating systems are used;
20. A plan indicating blast hole layout and a cross-section of a blast hole showing the maximum pounds per delay, burden, spacing, depth of hole, subdrilling, stemming depth, decking location, and locations of detonators and explosives.
21. The horizontal distance and direction to the nearest construction from the blast site, that is neither owned nor leased by the person conducting or contracting for the blasting operation closest to the nearest loaded blast hole to be detonated; and
22. The names of the instruments, operator, interpreter and statement of compliance in accordance with (f) below.

(d) When more than one similar blast is to be conducted in a single day, one form may be utilized for compliance with (c) above, provided the number of blasts is included and all applicable questions are answered for each blast.

(e) The person having a "permit to use" explosives shall maintain a record of all misfires which shall include the following:

1. The address and involved portion of the mine or construction site;
2. The date of misfire;
3. The number of holes involved in the misfire;
4. The cause of the misfire;
5. The method used to reblast the misfire;
6. The name of the blaster in responsible charge of handling the misfire; and
7. The signature of the blaster making the report.

(f) When required by N.J.A.C. 12:190-7, the person holding a "permit to use" explosives shall maintain a record of ground vibration readings and air blast effect readings, which shall include the following:

1. Identification of the instrument used;
2. The name of the observer;
3. The name of the interpreter;
4. The distance in feet and direction of the nearest construction from the blast site that is neither owned nor leased by the person conducting or contracting for the blasting operation closest to the nearest loaded blast hole to be detonated;
5. The distance in feet and direction of the instrument locations from the blast site;
6. The type of surface at the instrument location;
7. The maximum peak particle velocity of any one of the three mutually perpendicular components of the ground motion in the vertical and horizontal directions at the specific location in inches per second and the frequency range of the blast; and
8. The sound measurement in decibels measured on the linear frequency response or the overpressure in pounds per square inch.

## **12:190-3.20 Reporting**

(a) Any accident involving explosives which results in an injury to a person or property damage shall be immediately reported by telephone to the appropriate officials of the Division of Workplace Standards by the permit holder for the explosives involved.

(b) Every person holding a "permit to manufacture, sell, store or use" explosives shall report immediately any loss by theft or otherwise of explosives in his possession to the appropriate officials of the Division of Workplace Standards.

(c) Every person holding a "permit to store or use" commercial explosives shall file monthly reports with the Office of Safety Compliance which are postmarked or faxed within 10 calendar days after the end of each calendar month using the Monthly Explosives Use Report, Form No. ES-400, except that when an employer is maintaining and submitting such reports, his or her employees holding "permits to use" explosives shall not be required to submit individual reports.

(d) Every person holding a "permit to sell" at retail, commercial explosives shall file monthly reports with the appropriate officials of the Division of Workplace Standards which are postmarked or faxed within 10 calendar days after the end of each calendar month using the Monthly Explosives Sales Report, Form No. ES-401.

(e) Monthly Explosive Use Report, Form No. ES-400, and Monthly Explosives Sales Report, Form No. ES-401 may be secured from the appropriate officials of the Division of Workplace Standards.

(f) Ground vibration recordings and air blast effect recordings shall be taken. A copy of the reports shall be forwarded to the Commissioner upon his or her written request.

## **SUBCHAPTER 4. MANUFACTURE OF EXPLOSIVES**

### **12:190-4.1 Scope of subchapter**

This subchapter shall apply to explosives at explosives manufacturing establishments.



## 12:190-4.2 Buildings and magazines

(a) All buildings and magazines shall be approved.

(b) All buildings used for the manufacture of commercial explosives shall be located one from the other and from other buildings of the explosive manufacturing establishment in which persons are regularly employed in accordance with Table 4.2.

Table 4.2 Quantity and Distance for Commercial Explosives			
Commercial Explosives		Distance	
Pounds over	Pounds not over	Feet – Unbarricaded	Feet - Barricaded
10*	25	40	20
25	50	60	30
50	100	80	40
100	200	100	50
200	300	120	60
300	400	130	65
400	500	140	70
500	750	160	80
750	1,000	180	90
1,000	1,500	210	105
1,500	2,000	250	115
2,000	3,000	260	130
3,000	4,000	280	140
4,000	5,000	300	150
5,000	6,000	320	160
6,000	7,000	340	170
7,000	8,000	360	180
8,000	9,000	380	190
9,000	10,000	400	200
10,000	12,000	420	210
12,500	15,000	450	225
15,000	17,500	470	235
17,500	20,000	490	245
20,000	25,000	530	265
25,000	30,000	560	280
30,000	35,000	590	295
35,000	40,000	620	310
40,000	45,000	640	320
45,000	50,000	660	330
50,000	55,000	680	340
55,000	60,000	700	350
60,000	65,000	720	360
65,000	70,000	740	370
70,000	75,000	770	385
75,000	80,000	780	390
80,000	85,000	790	395
85,000	90,000	800	400
90,000	95,000	820	410
95,000	100,000	830	415
100,000	125,000	900	450
125,000	150,000	950	475
150,000	175,000	1,000	500
175,000	200,000	1,050	525
200,000	225,000	1,100	550
225,000	250,000	1,150	575

250,000	275,000	1,200	600
275,000	300,000	1,270	635
Note to Table: * Ten pounds or less may be stored in a separate building or in storage space properly separated by substantial dividing walls. Such a wall shall be designed to prevent, control, or delay propagation of explosions between quantities of explosives on opposite sides of the wall.			

(c) All magazines for commercial explosives shall be located from explosive manufacturing buildings and other buildings of the explosive manufacturing establishment in which persons are regularly employed in accordance with Table 4.2.

(d) All explosive manufacturing buildings in which commercial explosives are stored shall be located from inhabited buildings, railways and public highways in accordance with N.J.A.C. 12:190-5.

#### **12:190-4.3 Plan for explosive manufacturing establishment**

(a) An initial "permit to manufacture" explosives shall not be issued unless a plan complying with (b) below has been submitted in triplicate to the commissioner for approval.

(b) The explosive manufacturing establishment plan shall show the location of all explosive manufacturing buildings, the distances they are located from other buildings on the premises, and from magazines. The plan shall show the distance of the explosive manufacturing buildings from inhabited buildings, railroads, and highways not on the premises of the explosive manufacturing establishment.

(c) The person holding a "permit to manufacture" explosives shall keep a copy of the explosive manufacturing plan in the main office of the establishment, which shall be open to inspection by the commissioner.

#### **12:190-4.4 Fencing**

Explosive manufacturing establishments shall be enclosed with an industrial type fence at least six feet high or an equivalent enclosure, when required by the commissioner.

#### **12:190-4.5 Storage**

(a) Two or more types of explosives may be stored together provided they are compatible and such storage does not increase substantially the probability of an incident or a hazard.

(b) Explosives shall not be stored in the vicinity of operations involving hazardous substances where an accident could detonate the explosives.

(c) Explosives being held for the manufacturing process line shall be stored in approved day boxes until needed in the process line.

(d) Explosives shall not be permitted to accumulate in any place in the explosive manufacturing establishment in such quantity that an accidental detonation of such explosives would create a danger to the public.

(e) All magazines shall be located in accordance with *N.J.A.C. 12:190-5.10* through 5.17, as applicable.

#### **12:190-4.6 Assembly of ammunition primers and detonating fuses**

(a) Manufactured explosive components used in the assembly of ammunition primers and detonating fuses shall be stored in magazines or approved dry boxes until needed in the assembly line.

(b) The explosive components in dry boxes shall not exceed 25 pounds.

(c) Explosive components packaged in non-mass detonating shipping packages shall be stored in a locked room or locked storage cabinet where no other items are stored.

(d) When shipping cartons containing explosive components are opened, the explosive components shall be stored in an indoor magazine until moved to the day-box at the assembly line. The total weight of explosives stored in any indoor magazine shall not exceed 50 pounds.

#### **12:190-4.7 Blasting agents**

Mixing of blasting agents shall be in accordance with N.J.A.C. 12:190-9.

#### **12:190-4.8 Time of explosives testing**

Testing explosives except during unusual conditions and when approved by the Commissioner, shall be conducted only during daylight hours, but shall not be conducted before 8:00 A.M. or after 6:00 P.M. on the day of testing.

### **SUBCHAPTER 5. STORAGE OF EXPLOSIVES**

#### **12:190-5.1 Scope of subchapter**

This subchapter shall apply to the storage of explosives in magazines.

#### **12:190-5.2 Types of magazines**

(a) For the purposes of this subchapter, magazines shall be grouped into four types; Type 1, Type 2, Type 3, Type 4, and Type UG magazines.

(b) The five types of magazines as listed in (a) above shall be defined as follows:

1. "Type 1 magazine" means a permanent outdoor magazine.
2. "Type 2 magazine" means an indoor magazine or an outdoor magazine that is portable or mobile, such as a skid magazine or a trailer or semi trailer.
3. "Type 3 magazine" means a portable magazine, such as a "day-box" or a magazine on skids.
4. "Type 4 magazine" means an indoor or outdoor magazine.
5. "Type UG magazine" means a magazine for the permanent storage of explosives in underground operations. See *N.J.A.C. 12:190-5.20* for construction, location, and storage of Type UG magazines.

(c) The magazines defined in (b) above may be used for the storage of explosives as follows:

1. Type 1 magazines shall be used for the storage of high explosives or other classes of explosives.
2. Type 2 magazines shall be used for the temporary storage of high explosives or other classes of explosives.
3. Type 3 magazines shall be used, while attended, for the temporary storage of high explosives or other classes of explosives.
4. Type 4 magazines shall be used for the storage of low explosives, smokeless powder, or blasting agents. Detonators that will not mass detonate may also be stored in Type 4 magazines.
5. Type UG magazines shall be used for the storage of high explosives or other classes of explosives.
6. Blasting caps or detonators shall not be stored with other explosives in the same magazine.

(d) The commissioner may authorize alternate construction for magazines for the storage of explosives when it is shown that the alternate magazine construction is substantially equivalent to the standards of safety and security contained in this subchapter.

#### **12:190-5.3 Construction of type 1 magazines**

(a) This section shall apply to the construction of type 1 magazines.

(b) A type 1 magazine shall be a permanent structure, a building, an igloo, a tunnel, or a dugout. It shall be bullet-resistant, fire-resistant, weather-resistant, and theft-resistant.

(c) All type 1 magazines shall be constructed of masonry, wood, metal, or a combination of these materials as specified in this section, and shall have no openings except for entrances and for ventilation.

(d) Walls of type 1 magazines shall be constructed as provided in this subsection.

1. Masonry wall construction shall consist of brick, concrete, tile, cement block, or cinder block and shall not be less than six inches in thickness. Hollow masonry units shall have all hollow spaces filled with well-tamped, coarse, dry sand or weak concrete (at least a mixture of one part cement and eight parts of sand with enough water to dampen the mixture while tamping in place).
2. Fabricated metal wall construction shall consist of sectional sheets of steel or aluminum not less than No. 14 gauge, securely fastened to a metal framework. Metal wall construction shall either be lined inside with brick, solid cement blocks, hardwood not less than four inches thick, or shall have at least a six inch sand fill between interior and exterior walls.
3. In wood frame wall construction the exterior of outer wood walls shall be covered with iron or aluminum not less than No. 26 gauge. The interior wall shall be constructed so as to provide a space of not less than six inches between the outer and inner walls. The space shall be filled with coarse, dry sand or weak concrete.

(e) Interior walls shall be constructed of or covered with a nonsparking material.

(f) Floors shall be constructed of or covered with any suitable nonsparking material and shall be strong enough to bear the weight of the maximum quantity of explosives to be stored.

(g) Foundations shall be constructed of brick, concrete, cement block, stone, or metal or wood posts. If piers or posts are used in lieu of a continuous foundation, the spaces under the buildings shall be enclosed with fire-resistant material.

(h) Outer roofs shall be constructed of fabricated metal, tile, asbestos, concrete, or other fire-resistant material. Where it is possible for a bullet to be fired directly through the roof and into the magazine at such an angle that the bullet would strike the explosives stored within, the magazine shall be protected by one of the following methods:

1. A sand tray lined with a layer of building paper, plastic, or other nonporous material, and filled with not less than four inches of coarse, dry sand located at the tops of inner walls covering the entire ceiling area, except that portion necessary for ventilation, or
2. A fabricated metal roof constructed of 3/16 inch plate steel lined with four inches of hardwood. For each additional 1/16 inch of plate steel, the hardwood lining may be decreased one inch.

(i) Doors shall be constructed of 1/4 inch plate steel and lined with two inches of hardwood.

(j) Hinges and hasps shall be attached to the doors by welding, riveting, or bolting with nuts on the inside of the door. The hinges and hasps shall be installed in such a manner that they cannot be removed when the doors are closed and locked.

(k) Each door shall be equipped with one or more of the following:

1. Two mortise locks;
2. Two padlocks fastened in separate hasps and staples;
3. A combination of a mortise lock and a padlock;
4. A mortise lock that requires two keys to open;
5. A three-point lock; or
6. A bolt, lock or bar which cannot be actuated from the outside.

(l) Padlocks shall have at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter and a minimum of a 3/8 inch steel staple.

(m) Outdoor padlocks shall be protected with 1/4 inch steel hoods constructed so as to prevent sawing or level action on the locks or hasps.

(n) No sparking material shall be exposed to contact with stored explosive materials. All ferrous nails in the floor and side walls which might be exposed to contact with explosive materials shall be blind nailed or countersunk or the floor and side walls covered with a non-sparking lattice work or other nonsparking material.

(o) Igloo, tunnel, and dugout magazines shall be constructed of reinforced concrete, masonry, metal or a combination of these materials. They shall have an earthmound covering of not less than 24 inches on top, sides, and rear unless the magazine complies with (h) above. Magazines of this type shall comply with (f) and (i) through (n) above.

#### **12:190-5.4 Construction of type 2 outdoor magazines**

(a) This section shall apply to the construction of type 2 outdoor magazines.

(b) A type 2 outdoor magazine shall be a box, trailer, semi-trailer, or other mobile facility.

(c) Type 2 outdoor magazines shall be bullet-resistant, fire-resistant, weather-resistant, and theft-resistant. They shall be supported in such a manner so as to prevent direct contact with the ground and, if less than one cubic yard in size, shall be securely fastened to a fixed object to prevent theft of the entire magazine.

(d) The exterior and covers or doors shall be constructed of 1/4 inch steel and shall be lined with two inches of hardwood. Magazines with top openings shall have lids with water-resistant seals or the lids shall overlap the sides by at least one inch when in a closed position.

(e) Hinges and hasps, locks, padlocks, padlock protection, and sparking material shall comply with *N.J.A.C. 12:190-5.3(j)*, (k), (l), (m), and (n) respectively.

#### **12:190-5.5 Construction of type 2 indoor magazines**

(a) This section shall apply to the construction of type 2 indoor magazines.

(b) Type 2 indoor magazines shall be fire-resistant and theft-resistant. They need not be bullet-resistant and weather-resistant if the buildings in which they are stored provide protection from the weather and from bullet penetration.

(c) Type 2 indoor magazines shall be constructed of wood or metal in accordance with (c)1, 2, or 3 below:

1. Wood magazines shall have sides, bottoms and covers or doors constructed of two inches of hardwood and shall be well braced at corners. They shall be covered with sheet metal of not less than number 20 gauge. Nails exposed to the interior of magazines shall be countersunk and covered with a nonsparking material.
2. Metal magazines shall have sides, bottoms, and covers or doors constructed of number 12 gauge metal and shall be lined inside with a nonsparking material. Edges of metal covers shall overlap sides at least one inch.
3. Magazines for blasting caps (cap boxes) in quantities of 100 or less shall have sides, bottoms and covers or doors constructed of number 12 gauge metal and lined with a nonsparking material.

(d) Hinges and hasps, locks, padlocks, padlock protection, and sparking material shall comply with *N.J.A.C. 12:190-5.3(j)*, (k), (l), (m), and (n) respectively; except that with regard to padlocks on type 2 indoor magazines in rooms which are locked only one padlock for each magazine door or cover, which need not be protected by a steel hood, shall be required.

#### **12:190-5.6 Construction of type 3 magazines**

(a) This section shall apply to the construction of type 3 magazines.

(b) A type 3 magazine shall be a "day-box" or other portable magazine. It shall be fire-resistant, weather resistant and theft resistant.

(c) A type 3 magazine shall be constructed of not less than 12 gauge (.1045 inch) steel lined with at least 1/2 inch plywood or 1/2 inch Masonite-type hardboard or comply with IME 22 specs.

(d) No sparking material shall be exposed to contact with stored explosive materials.

(e) Doors or covers shall overlap sides of type 3 magazines by not less than one inch.

(f) Hinges and hasps shall be attached by welding, riveting or bolting with nuts on the inside.

(g) One steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case hardened shackle of not less than 3/8 inch diameter and a minimum of a 3/8 inch steel staple shall be provided for locking purposes.

#### **12:190-5.7 Construction of type 4 outdoor magazines**

(a) This section shall apply to the construction of type 4 outdoor magazines.

(b) A type 4 outdoor magazine shall be a building, igloo, tunnel, dugout, box, trailer, or a semi-trailer or other mobile magazine.

(c) Type 4 outdoor magazines shall be fire-resistant, weather-resistant, and theft-resistant.

(d) Type 4 outdoor magazines shall be constructed of masonry metal-covered wood, fabricated metal, or a combination of these materials.

(e) The walls and floors shall be constructed of, or covered with, a nonsparking material or lattice work.

(f) Foundations shall be constructed of brick, concrete, cement block, stone, or metal or wood posts. If piers or posts are used, in lieu of a continuous foundation, the spaces under the buildings shall be enclosed with fire-resistant material.

(g) The doors or covers shall be metal or solid wood covered with metal.

(h) Hinges and hasps, locks, padlocks, padlock protection, and sparking material shall comply with *N.J.A.C. 12:190-5.3(j)*, (k), (l), (m), and (n) respectively.

#### **12:190-5.8 Construction of type 4 indoor magazines**

(a) This section shall apply to the construction of type 4 indoor magazines.

(b) Type 4 indoor magazines shall be fire-resistant and theft-resistant. They need not be bullet-resistant and weather-resistant if the buildings in which they are stored provide protection from the weather and from bullet penetration.

(c) Type 4 indoor magazines shall be constructed in accordance with (c)1 or (c)2 below:

1. Wood magazines shall have sides, bottoms and covers or doors constructed of one inch of hardwood and shall be well braced at corners. They shall be covered with sheet metal of not less than number 26 gauge. Ferrous nails exposed to the interior of magazines shall be countersunk.
2. Metal magazines shall have sides, bottoms, and covers or doors constructed of not less than 16 gauge metal and shall be lined inside with a nonsparking material.

(d) Hinges and hasps, locks, padlocks, padlock protection, ventilation and sparking material of all type 4 indoor magazines shall comply with *N.J.A.C. 12:190-5.3(j)*, (k), (l), (m) and (n) respectively; except that with regard to padlocks on type 4 indoor magazines in rooms which are locked only one padlock for each magazine door or cover, which need not be protected by a steel hood, shall be required.

#### **12:190-5.9 Construction of services for magazines**

(a) Magazines shall not be provided with artificial heat.

(b) No lighting shall be placed or used in a storage facility of type 1, 2, 3, or 4 magazines except approved battery activated safety lights or battery activated safety lanterns.

(c) Magazines shall be ventilated to prevent dampness or heating of stored explosive materials adversely affected by lack of ventilation. Vents in the foundation, roof, or gables shall be offset or shielded and screened to prevent the entrance of sparks.

(d) The ground around all outdoor magazines shall slope away for drainage or other adequate drainage shall be provided.

(e) Unattended vehicular magazines shall have wheels removed or shall be effectively immobilized by kingpin locking devices or other approved methods.

#### **12:190-5.10 Location of type 1 magazines and type 2 outdoor magazines**

(a) Type 1 magazines and type 2 outdoor magazines shall be located outside of buildings.

(b) Type 1 magazines and type 2 outdoor magazines in which high explosives are stored shall be located no closer to inhabited buildings, passenger railways, public highways, or other magazines in which high explosives are stored, than the distances specified in Table 5.10.

<b>Table 5.10</b> <b>High Explosives</b>									
QUANTITY OF EXPLOSIVES		Inhabited Buildings		Public Highways with Traffic Volume of 3,000 or less Vehicles/Day		Passenger Railways—Public Highways with Traffic Volume of more than 3,000 Vehicles/Day		Separation of Magazines	
Pounds Over	Pounds Not Over	Barricaded *	Unbarricaded	Barricaded *	Unbarricaded	Barricaded*	Unbarricaded	Barricaded*	Unbarricaded
2	5	70	140	30	60	51	102	6	12
5	10	90	180	35	70	64	128	8	16
10	20	110	220	45	90	81	162	10	20
20	30	125	250	50	100	93	186	11	22
30	40	140	280	55	110	103	206	12	24
40	50	150	300	60	120	110	220	14	28
55	75	170	340	70	140	127	254	15	30
75	100	190	380	75	150	139	278	16	32
100	125	200	400	80	160	150	300	18	36
125	150	215	430	85	170	159	318	19	38
150	200	235	470	95	190	175	350	21	42
200	250	255	510	105	210	189	378	23	46
250	300	270	540	110	220	201	402	24	48
300	400	295	590	120	240	221	442	27	54
400	500	320	640	130	260	238	476	29	58
500	600	340	680	135	270	253	506	31	62
600	700	355	710	145	290	265	532	32	64
700	800	375	750	150	300	278	556	33	66
800	900	390	780	155	310	289	578	35	70
900	1,000	400	800	160	320	300	600	36	72
1,000	1,200	425	850	165	330	318	636	39	78
1,200	1,400	450	900	170	340	336	672	41	82
1,400	1,600	470	940	175	350	351	702	43	86
1,600	1,800	480	960	180	360	366	732	44	88
1,800	2,000	505	1,010	185	370	378	756	45	90
2,000	2,500	545	1,000	190	380	408	816	48	96
2,500	3,000	580	1,100	195	390	432	864	52	104
3,000	4,000	635	1,270	210	420	474	948	58	116
4,000	5,000	685	1,370	225	450	513	1,026	61	122
5,000	6,000	730	1,460	235	470	546	1,092	65	130
6,000	7,000	770	1,540	245	490	573	1,146	69	138
7,000	8,000	800	1,600	250	500	600	1,200	72	144
8,000	9,000	835	1,870	255	510	624	1,248	75	150
9,000	10,000	865	1,730	260	520	645	1,290	78	156
10,000	12,000	875	1,750	270	540	687	1,374	82	164
12,000	14,000	885	1,770	275	550	723	1,446	87	174
14,000	16,000	900	1,800	280	560	756	1,512	90	180
16,000	18,000	940	1,880	285	570	786	1,572	94	188
18,000	20,000	975	1,950	290	580	813	1,626	98	196
20,000	25,000	1,055	2,000	315	630	876	1,752	105	210
25,000	30,000	1,130	2,000	340	680	933	1,866	112	224
30,000	35,000	1,205	2,000	360	720	981	1,962	119	238
35,000	40,000	1,275	2,000	380	760	1,026	2,000	124	248
40,000	45,000	1,340	2,000	400	800	1,068	2,000	129	258
45,000	50,000	1,400	2,000	420	840	1,104	2,000	135	270

50,000	55,000	1,480	2,000	440	880	1,140	2,000	140	280
55,000	60,000	1,515	2,000	455	910	1,173	2,000	145	290
60,000	65,000	1,565	2,000	470	940	1,206	2,000	150	300
65,000	70,000	1,610	2,000	485	970	1,236	2,000	155	310
70,000	75,000	1,655	2,000	500	1,000	1,263	2,000	160	320
75,000	80,000	1,695	2,000	510	1,020	1,293	2,000	165	330
80,000	85,000	1,730	2,000	520	1,040	1,317	2,000	170	340
85,000	90,000	1,760	2,000	530	1,060	1,344	2,000	175	350
90,000	95,000	1,790	2,000	540	1,080	1,368	2,000	180	360
95,000	100,000	1,815	2,000	545	1,090	1,392	2,000	185	370
100,000	110,000	1,835	2,000	550	1,100	1,437	2,000	195	390
110,000	120,000	1,855	2,000	555	1,110	1,479	2,000	205	410
120,000	130,000	1,875	2,000	560	1,120	1,521	2,000	215	430
130,000	140,000	1,890	2,000	565	1,130	1,557	2,000	225	450
140,000	150,000	1,900	2,000	570	1,140	1,593	2,000	235	470
150,000	160,000	1,935	2,000	580	1,160	1,629	2,000	245	480
160,000	170,000	1,965	2,000	590	1,180	1,662	2,000	255	510
170,000	180,000	1,990	2,000	600	1,200	1,695	2,000	265	530
180,000	190,000	2,010	2,010	605	1,210	1,725	2,000	275	550
190,000	200,000	2,030	2,030	610	1,220	1,755	2,000	285	570
200,000	210,000	2,055	2,055	620	1,240	1,782	2,000	295	590
210,000	230,000	2,100	2,100	635	1,270	1,836	2,000	315	630
230,000	250,000	2,155	2,155	650	1,300	1,890	2,000	335	670
250,000	275,000	2,215	2,215	670	1,340	1,950	2,000	360	720
275,000	300,000	2,275	2,275	690	1,380	2,000	2,000	385	770
Note to Table									
* "Barricaded" means a natural barricade or an artificial barricade of a minimum thickness of three feet.									

#### 12:190-5.11 Location of type 2 indoor magazines

(a) Type 2 indoor magazines shall be located on a floor nearest the ground level in a warehouse or in a wholesale or retail establishment which has an entrance or ramp to exterior grade level. Such magazines shall be located not more than 10 feet from such an entrance.

(b) Two magazines may be located in the same building when one magazine is used for detonators not exceeding 5,000 detonators, and when a distance of 10 feet is maintained between magazines.

#### 12:190-5.12 Location of type 3 magazines

(a) Type 3 magazines shall be located as far away as practicable from neighboring inhabited buildings, railways, highways, and any other magazine.

(b) Type 3 magazines may be located outside of buildings or inside buildings.

(c) When in its use location, a type 3 magazine shall be closely attended.

#### 12:190-5.13 Location of type 4 outdoor magazines

(a) Type 4 outdoor magazines shall be located outside of buildings.

(b) Type 4 outdoor magazines in which low explosives are stored shall be located not closer to inhabited buildings, passenger railways, public highways, or other magazines in which explosives are stored, than the distances of Table 5.13.

(b) Type 4 outdoor magazines in which low explosives are stored shall be located not closer to inhabited buildings, passenger railways, public highways, or other magazines in which explosives are stored, than the distances of Table 5.13.

Table 5.13  
Low Explosives



Low Explosives		Distance in Feet from		
Pounds over	Pounds not over	Inhabited Building	Public Railroad and Highway	Aboveground Magazine
0	1,00	75	75	50
1,000	5,000	115	115	75
5,000	10,000	150	150	100
10,000	20,000	190	190	125
20,000	30,000	215	215	145
30,000	40,000	235	235	155
40,000	50,000	250	250	165
50,000	60,000	260	260	175
60,000	70,000	270	270	185
70,000	80,000	280	280	190
80,000	90,000	295	295	195
90,000	100,000	300	300	200
100,000	200,000	375	375	250
200,000	300,000	450	450	300

(c) The distances shown in Table 5.13 shall not be reduced by the presence of barricades.

#### **12:190-5.14 Location of type 4 indoor magazines**

Type 4 indoor magazines shall be located as provided for type 2 indoor magazines in *N.J.A.C. 12:190-5.11*.

#### **12:190-5.15 Location of two or more outdoor magazines on the same property**

(a) This section shall apply to the location of two or more type 1 or type 2 magazines on the same property.

(b) When two or more type 1 or type 2 magazines are located on the same property, each magazine shall be separated from each by the distance specified by Table 5.10 of this subchapter and shall comply with the distances specified in Table 5.10 of this subchapter from inhabited buildings, railways, and highways.

(c) If any two or more type 1 or type 2 magazines are separated from each other by less than the distances specified in the column reading "Separation of Magazines" of Table 5.10, then the two or more magazines, as a group, shall be considered as one magazine. The total quantity of explosives stored in that group shall then be treated as if stored in a single magazine and shall comply with the distances from other magazines, inhabited buildings, railways or highways of Table 5.10.

(d) All types of blasting caps in strengths through No. 8 cap shall be rated at one and one half pounds of explosives per 1,000 caps. For strengths higher than No. 8 caps, consult the manufacturer.

(e) For quantity and distance purposes, detonating cord of 50 to 60 grains shall be calculated as equivalent to nine pounds of high explosives per 1,000 feet. Heavier or lighter core loads shall be rated proportionately.

#### **12:190-5.16 Location of ammonium nitrate and blasting agents from high explosives or blasting agents**

(a) Ammonium nitrate and ammonium nitrate-based blasting agents shall be separated from nearby stores of high explosives or blasting agents referred to as the "donor" by distances as provided in Table 5.16.

<b>Table 5.16</b> <b>Location of Ammonium Nitrate and Blasting Agents</b> <b>From High Explosives or Blasting Agents*</b>		
Donor Weight	Minimum Separation Distance of Acceptor** When Barricaded Feet	Minimum Thickness of Artificial Barricades Inches

Pounds Over	Pounds Not Over	Ammonium Nitrate	Blasting Agent	
0	100	3	11	12
100	300	4	14	12
300	600	5	18	12
600	1,000	6	22	12
1,000	1,600	7	25	12
1,600	2,000	8	29	12
2,000	3,000	9	32	15
3,000	4,000	10	36	15
4,000	6,000	11	40	15
6,000	8,000	12	43	20
8,000	10,000	13	47	20
10,000	12,000	14	50	20
12,000	16,000	15	54	25
16,000	20,000	16	58	25
20,000	25,000	18	65	25
25,000	30,000	19	68	30
30,000	35,000	20	72	30
35,000	40,000	21	76	30
40,000	45,000	22	79	35
45,000	50,000	23	83	35
50,000	55,000	24	86	35
55,000	60,000	25	90	35
60,000	70,000	26	94	40
70,000	80,000	28	101	40
80,000	90,000	30	108	40
90,000	100,000	32	115	40
100,000	120,000	34	122	50
120,000	140,000	37	133	50
140,000	160,000	40	144	50
160,000	180,000	44	158	50
180,000	200,000	48	173	50
200,000	220,000	52	187	60
220,000	250,000	56	202	60
250,000	275,000	60	216	60
275,000	300,000	64	230	60
<p>* High explosives and blasting agents are donors. Ammonium nitrate, by itself, is not considered to be a donor.</p> <p>** Ammonium nitrate and blasting agents are acceptors.</p>				

(b) If storage of ammonium nitrate is located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of the ammonium nitrate shall be included in the mass of the donor when calculating separation distances.

(c) When ammonium nitrate or a blasting agent or both is not barricaded, the distances shown in Table 5.16 shall be multiplied by six. These distances allow for the possibility of high velocity metal fragments from mixers, hoppers, truck bodies, sheet metal structures, metal containers, and the like which may enclose the "donor". Where storage is in bullet-resistant magazines recommended for explosives or where the storage is protected by a bullet-resistant wall, the distances and barricade thicknesses need not exceed those prescribed in Table 5.10.

(d) Table 5.16 shall apply to the blasting agents which pass the insensitivity test in the definition of blasting agent of *N.J.A.C. 12:190-2.1*.

(e) Earthen dikes, sand dikes, or enclosures filled with the required minimum thickness of earth or sand shall be acceptable artificial barricades. Hills or timber of sufficient density shall be acceptable natural barricades.

(f) For determining the distances to be kept from inhabited buildings, passenger railways, and public highways, Table 5.10 shall apply. Ammonium nitrate, when stored with blasting agents or explosives, may be counted at one half its actual weight.

#### **12:190-5.17 Storage in general**

(a) All explosive materials shall be kept in locked magazines as prescribed by this subchapter unless they are:

1. In the process of manufacture;
2. Being physically handled in the operating process of a permit holder or user;
3. Being used; or
4. Being transported to a place of storage or used by a permit holder.

(b) No explosives shall be stored in a residence, except when approved by the Commissioner.

(c) No person shall store any explosive materials in a manner not in conformance with this subchapter. The storage standards prescribed by this subchapter confer no rights or privileges to store explosive materials in a manner contrary to 27 CFR Part 55.

(d) More than one type 4 indoor magazine may be located in any one building provided the total quantity of explosives stored does not exceed 50 pounds. Two or more indoor magazines within the same building shall be separated by a distance of not less than 10 feet or an approved wall having a fire resistance rating of not less than one hour.

(e) Detonators shall not be stored in the same magazine with other explosives, except as follows:

1. In a type 4 magazine, detonators that will not mass detonate may be stored with electric squibs, safety fuses, igniters and igniter cords; and
2. In a type 1 or type 2 magazine, detonators may be stored with delay devices, electric squibs, safety fuses, igniters and igniter cords.

(f) Combustible material shall not be permitted within 50 feet of outdoor magazines and 25 feet of indoor magazines.

(g) Flammable liquids shall not be permitted within 50 feet of outdoor magazines

#### **12:190-5.18 Storage within magazines**

(a) All magazines shall be in the charge of a competent person at least 21 years of age.

(b) Explosives shall not be stored in any amount exceeding the quantity stated on the storage permit.

(c) Explosives may be stored unattended in types 1, 2, and 4 magazines.

(d) High explosives in excess of 50 pounds or more than 5,000 blasting caps shall not be stored in a type 2 indoor magazine.

(e) Explosives shall not be stored unattended in type 3 magazines.

(f) Low explosives in excess of 50 pounds shall not be stored in a type 4 indoor magazine. This quantity limit shall not apply to smokeless powder which is covered in *N.J.A.C. 12:190-10.2*.

(g) Any person storing explosive materials shall open and inspect his magazines at least every seven days. This inspection need not be an inventory, but shall be sufficient to determine whether there has been unauthorized removal of their contents.

(h) A permittee who intends to make modifications to or changes in a magazine, shall report such intention to the appropriate officials of the Division of Workplace Standards, prior to modifying the magazine.

(i) Acquired additional magazines shall not be utilized without obtaining a valid permit for such magazine.

(j) Plans shall be submitted for approval, when required by the Commissioner, before magazines are constructed and used.

(k) Explosives materials within type 1, 2, or 4 magazines shall not be placed directly against interior walls and shall be stored so as not to interfere with ventilation. To prevent contact of stored explosive materials with walls, a nonsparking lattice work or other nonsparking material shall be used.

(l) Containers of explosive materials shall be stored by being laid flat with top sides up. Corresponding classes as defined in 40 CFR Part 173, grades, and brands of explosives shall be stored together within a magazine in such a manner that grade, brand, and USDOT class marks are easily visible upon inspection. Stocks of explosive materials shall be stored so as to be easily counted and checked.

(m) Except with respect to fiberboard or other nonmetal containers, containers of explosive materials shall not be unpacked or repacked inside a magazine or within 50 feet of a magazine, and shall not be unpacked or repacked near other explosive materials. Containers of explosives materials shall be securely closed while being stored.

(n) Tools used for opening or closing containers of explosive materials shall be of nonsparking materials, except that metal slitters may be used for opening fiberboard containers. A wood wedge and a fiber, rubber, or wooden mallet shall be used for opening or closing wood containers of explosive materials. Metal tools other than nonsparking transfer conveyors shall not be stored in any magazine containing high explosives.

#### **12:190-5.19 Storage in tunnels**

(a) Explosives shall not be stored in tunnels where persons are located, unless such storage is approved.

(b) Immediately after the completion of explosive loading operations, all unused explosives in tunnels shall be removed to magazines complying with this subchapter.

#### **12:190-5.20 Storage for underground mines**

(a) This section shall apply to storage of explosives for underground mining operations.

(b) This section shall also apply to the construction and location of type UG magazines.

(c) A magazine for explosives shall not be permitted underground, until the underground workings are developed to a point where the magazine:

1. Is at least 300 feet from any shaft;
2. Is at least 15 feet from any haulage way or travel way;
3. Has a travel way to the nearest means of egress with at least two sharp turns;
4. Could not impede excavation of all persons in the event of accidental detonation of the explosives in the magazine; and
5. Is at least 50 feet from any magazine containing blasting caps.

(d) A type UG magazine shall be used for the storage of explosives underground.

(e) The amount of explosives stored underground in a mine in a magazine shall not exceed 5,000 pounds.

(f) Any explosives in excess of the amount required for one day's underground mining operations when stored underground in a mine shall be stored in a Type 5 approved magazine constructed in accordance with (i) below.

(g) Daily supplies of explosives within a mine at any working place shall be kept in approved containers constructed in accordance with (j) below.

(h) Prior to closing any part of a mine, all explosives contained therein shall be removed.

(i) A type UG magazine shall be constructed:

1. In solid rock with the front opening constructed in accordance with Table 5.3 of *N.J.A.C. 12:190-5.3*;
2. With doors of 2 inches of hardwood covered with 26 gauge sheet metal or the equivalent;

3. With hinges and hasps complying with *N.J.A.C. 12:190-5.3(j)*, (k), (l), (m), and (n);
4. With one padlock complying with *N.J.A.C. 12:190-5.3 (k)* and (l);
5. So that water will drain away;
6. With a floor that is wood lined or covered with wooden slats;
7. With doors having at least 16 gauge metal outer covering or equivalent fire resistive protection and lined with at least two inches of hardwood;
8. With no artificial heat;
9. Internal lighting by approved electric safety battery lamps or approved electric lights, wiring and equipment of a type designed for the hazardous location;
10. With adequate ventilation; and
11. With a conspicuous marking reading: "EXPLOSIVES".

(j) Containers shall be substantially constructed of plywood or equivalent at least one inch thick, painted red, and marked "Explosives" in letters of at least three inches in height on a contrasting background.

#### **12:190-5.21 Housekeeping in magazines**

(a) Magazines shall be kept clean, dry, and free of grit, paper, empty packages and containers, and rubbish. Floors shall be regularly swept.

(b) Brooms and other utensils used in the cleaning and maintenance of magazines shall have no spark-producing metal parts, and may be kept in magazines.

(c) Floors of magazines stained by leakage from explosive materials shall be cleaned according to instructions of the explosives manufacturer.

(d) When any explosive material has deteriorated, it shall be destroyed in accordance with the advice and instructions of the manufacturer of the explosive.

#### **12:190-5.22 Smoking and open flames**

(a) Smoking, open flames, matches, and other sources of ignition shall not be permitted;

1. In any magazine;
2. Within 100 feet of any outdoor magazine; or
3. Within any room containing an indoor magazine.

#### **12:190-5.23 Repair of magazines**

(a) Magazines shall be maintained in good repair.

(b) Before repairing and interior of magazines, all explosive materials shall be removed and the interior shall be cleaned.

(c) Before repairing the exterior of magazines, all explosive materials shall be removed if there exists any possibility that repairs may produce sparks or flame.

(d) Explosive materials removed from magazines under repair shall be:

1. Placed in other magazines appropriate for the storage of those explosive materials under this subchapter; or
2. Placed a safe distance from the magazines under repair where they shall be properly guarded and protected until the repairs have been completed.

#### **12:190-5.24 Signs**

(a) On the premises where a type 1 magazine, a type 2 outdoor magazine or a type 4 outdoor magazine is located, the holder of a "permit to store" explosives shall post a conspicuous warning sign which shall:

1. Read "EXPLOSIVES--KEEP OFF";
2. Have lettering at least three inches in height on a contrasting background;
3. Be so located that a bullet passing through the face of the sign will not strike the magazine.

(b) Type 2 indoor magazines and type 4 indoor magazines shall be labeled "EXPLOSIVES--KEEP FIRE AWAY".

(c) All type 3 magazines shall bear the word "EXPLOSIVES" in letters at least three inches in height and legible on a contrasting background.

(d) The provisions in (a) above shall not apply when it is deemed by the Commissioner that a warning sign would have counterproductive results.

#### **12:190-5.25 Notification to municipality**

(a) The holder of a "permit to store" explosives shall keep the fire official informed of:

1. The location of all magazines;
2. The maximum amount of explosives being stored;
3. The type and class of explosives being stored; and
4. Any consequential changes in the location of magazines, amount, type or class of explosives being stored.

### **SUBCHAPTER 6. TRANSPORTATION OF EXPLOSIVES OFF-THE-HIGHWAY**

#### **12:190-6.1 Scope of subchapter**

This subchapter shall apply to the transportation of explosives off-the-highway, underground, and manually.

#### **12:190-6.2 Transportation of explosives off-the-highway in motor vehicles**

(a) This section shall apply to the transportation of explosives off-the-highway at the project site.

(b) When the blasting project is being performed in a location where the public, or workers not associated with the blasting, could approach, the explosives on the vehicle shall be kept locked in:

1. An approved transportation day-box meeting the specifications of a Type 3 magazine or complying with IME 22 specifications.

(c) No detonator may be transported on the same motor vehicle with other explosives, unless the provisions of 49 *CFR* 177.835 are complied with.

(d) No person shall smoke or carry matches or any other flame producing device while in, on, or within 100 feet of a motor vehicle transporting explosives.

(e) No matches, firearms, electric storage batteries, flammable substances, acids, oxidizing materials or corrosive compounds shall be carried in the body of any motor vehicle transporting explosives, except where permitted by 49 *CFR* Parts 390 through 397.

(f) When carried in a vehicle transporting explosives, tools for the repair of the motor vehicle and tools required to conduct blasting operations shall be so segregated or secured in place in or on the vehicle and separated by bulkheads or other suitable means as to prevent damage to the explosives.

(g) Every motor vehicle transporting any quantity of explosives shall, at all times, be attended by a driver or other person designated by the owner.

(h) The attendant shall be:

1. Made aware of the class of explosives in the motor vehicle and of its inherent dangers;
2. Instructed in the measures and procedures to be followed in order to protect the public from inherent dangers;
3. Familiarized with the motor vehicle he is assigned to attend; and
4. Trained, authorized, and licensed in accordance with Federal "Hazardous Materials Regulations" Title 49, Code of Federal Regulations, Parts 171, 172, 173, 174, 177, 178, 179 and 180 Revised as of September 26, 1994 where applicable to move the motor vehicle, when required.

(i) For the purpose of (g) above, a motor vehicle shall be deemed "attended" only when:

1. The attendant is physically awake on or in the motor vehicle, or has the motor vehicle within his or her field of vision and can reach the motor vehicle quickly without any interference; or
2. A motor vehicle at a blasting site is within view of the blasting crew.

### **12:190-6.3 Motor vehicles on off-the-highway projects**

(a) This section shall apply to motor vehicles transporting explosives at off-the-highway projects.

(b) Motor vehicles used for transporting explosives shall be strong enough to carry the load and shall be in good mechanical condition.

(c) When explosives are transported in an open-bodied vehicle, they shall be in an approved transportation day-box and such magazine shall be securely fastened to the truck bed.

(d) All motor vehicles used for the transportation of explosives shall have tight floors and any exposed spark-producing metal on the inside of the body, portable magazine, or closed container, shall be covered with wood or other nonsparking material to prevent contact with the explosives.

(e) Motor vehicles, when used for transporting any quantity of explosives, shall display the placards required by *N.J.A.C. 12:190-6.4*.

(f) Each motor vehicle used for transporting explosives shall be equipped with fire extinguishers as follows:

1. Motor vehicles of less than 14,000 pounds gross vehicle weight with at least two extinguishers having a total rating of at least 4-A:20-B:C; and
2. Motor vehicles of 14,000 pounds gross vehicle weight or more and tractor semi-trailer units with at least two or more extinguishers with total rating of at least 4-A:70-B:C.

(g) Only extinguishers listed by a nationally recognized testing agency shall be used on vehicles carrying explosives. Extinguishers shall be equipped with a device permitting visual determination of charged condition.

(h) Extinguishers shall be located where they will be accessible for immediate use.

(i) Extinguishers shall be examined and recharged periodically in accordance with the manufacturer's recommendation.

(j) Where motor vehicles are operated in temperatures at or below 32 degrees fahrenheit, dry powder extinguishers shall be pressurized with nitrogen gas.

(k) A motor vehicle used for transporting explosives shall be inspected each day before use to determine that it is in proper condition for safe transportation. The inspection shall insure that:

1. The fire extinguishers are fully charged and ready for use;
2. All electrical wiring is protected and fastened to prevent short-circuiting;
3. Chassis, motor, pan and underside of body are reasonably clean and free of excessive oil and grease;
4. Fuel tanks, feed lines, and cross-over lines are secure and have no leaks;
5. Brakes, lights, horns, windshield wipers, defrosters, and steering apparatus are functioning properly; and
6. Tires are properly inflated and are not defective.

### **12:190-6.4 Signs and markings**

(a) Any vehicles on the job site containing explosives shall be placarded on the front, back, and sides, in one of the following ways:

1. Placards with the word "EXPLOSIVES" in letters six inches high and in colors contrasting with the background; or
2. Placards in accordance with *49 CFR 172.522, 523, or 524*.

### **12:190-6.5 Off highway transportation of explosives**

(a) The person using any vehicle for the transportation of explosives, including the owner or lessee, shall be responsible for the keeping of records related to inspections required under the Act.

(b) No explosives shall be transported in any form of full trailer, nor shall any trailer be attached to a vehicle transporting explosives.

(c) Vehicles in which explosives are being transported shall be driven by and be under the control of a driver at least 21 years of age. Such a person shall be familiar with the New Jersey laws and rules and regulations pertaining to the transportation of explosives.

(d) Blasting caps or electric blasting caps, or both, may be transported in the same vehicle with other commercial explosives only when the net weight of the other commercial explosives does not exceed 5,000 pounds.

(e) When nitro-carbo-nitrates or propellants, or both, are transported in the same vehicle with commercial explosives, all requirements governing the transportation of commercial explosives must be followed.

#### **12:190-6.6 Transportation of explosives in underground operations**

(a) This section shall apply to the transportation of explosives from the surface to underground operations.

(b) Explosives in small amounts shall be transported in a substantially constructed transport box with lid and sides of plywood at least one inch thick or equivalent. The transport box shall be painted red, with a conspicuous marking reading: "EXPLOSIVES".

(c) Explosives exceeding 100 pounds shall be transported in a powder car of sound construction with an interior and lid of nonsparking material.

(d) The hoist operator shall be notified before transporting explosives in a shaft.

(e) Explosives shall be moved from the surface to the underground destination without any delay enroute.

(f) Detonators and other explosives shall not be transported together in the same transport box, in any shaft conveyance, or in the same cargo space of a powder car. Explosives shall not be transported in any conveyance containing other material.

(g) A person shall not ride in any shaft conveyance transporting explosives.

(h) Explosives transported underground by railroad shall be:

1. In a powder car or, if in small amounts, in a clean empty railroad car;
2. Pulled by a locomotive, if a locomotive is used; and
3. Separated by at least one empty railroad car between the locomotive and the explosive car.

(i) When a trolley locomotive is used to pull a car carrying explosives, at least two empty cars shall be placed between the explosives car and the locomotive, and an electrically insulated coupling or drawbar shall be used between the locomotive and the explosives car.

(j) When a railroad car carrying explosives is pulled by a locomotive, no person other than the train crew and powder man shall be on the train.

(k) The powder car or conveyance carrying explosives shall bear a reflectorized sign on each side with the word "EXPLOSIVES" in letters not less than four inches in height, upon a background of sharply contrasting color.

(l) The amount of explosives taken to any work area shall not exceed the estimated amount needed for the next blast.

(m) Transport boxes shall not be used to store explosives, unless the following shift is to continue loading explosives for the same blast.

#### **12:190-6.7 Manual transportation of explosives**



- (a) This section shall apply to the manual transportation of explosives by a person.
- (b) Explosives shall not be carried in personal clothing.
- (c) When it is necessary to carry explosives which are not in the original outside container, they shall be carried in a suitable bag or container.
- (d) Blasting caps shall not be transported in the same bag or container with other explosives.

## **SUBCHAPTER 7. USE OF EXPLOSIVES**

### **12:190-7.1 Scope of subchapter**

- (a) This subchapter shall apply to the use of explosives.

### **12:190-7.2 Compliance**

(a) Every mine operator employing the services of a blaster shall use every reasonable precaution to provide for the safety of his employees, all persons at the blast site, and the public in the vicinity of the blast site. Such operator shall comply with this subchapter.

(b) Every contractor and other persons employing the services of a blaster shall use every reasonable precaution to provide for the safety of all persons at the blast site and the public in the vicinity of the blast site. Such contractor and other person shall comply with this subchapter.

(c) Any of the following shall be jointly responsible for compliance with this chapter when involved in any way with blasting operations:

1. Any mine operator;
2. Any contractor;
3. Any sales individual, company firm or corporation providing the services of a blaster;
4. Any other employer of a blaster; and
5. Any blaster.

(d) Where a sales company supplies the services of a blaster to a customer, the sales company, the blaster and the customer shall be jointly responsible for compliance with this subchapter.

(e) Where blasting operations are conducted, all employers shall instruct all their employees associated with such operations in the provisions of this subchapter as they relate to employees.

(f) Where blasting operations are conducted, all employees shall comply with the provisions of this subchapter as they relate to the employees.

(g) No person utilizing the services of a blaster shall prevent compliance by the blaster, or encourage noncompliance by the blaster, with this chapter.

(h) All blasters, prior to and during the use of any explosives, shall comply with this subchapter and shall take all reasonable precautions not specifically set forth in this subchapter to prevent endangerment of the public and property.

(i) Any person who uses explosives in research, metal cutting or forming, seismic testing, actuating devices or other use shall comply with the applicable provisions of this subchapter and provide additional safeguards when the nature of the use indicates that it is necessary in order to assure safety for persons and property.

### **12:190-7.3 Notification**

(a) Any person intending to conduct a blasting operation shall notify the New Jersey Department of Labor, Division of Workplace Standards, Mine Safety Section in Trenton of such intention prior to conducting the blasting operation via phone followed by fax transmittal or in writing. Such notification must be received by the Division of Workplace Standards no later than 3:00 P.M. of the previous business day prior to conducting the blasting operation on forms specified by the Department of Labor. Illegible or incomplete notifications shall not be acceptable. Notifications shall include:

1. The contractor name and address;
2. The specific location of the blasting;
3. The intended time of the blast; and
4. The specific start and scheduled completion dates of the blasting operations.

(b) All blasting operations that are continuous projects shall be required to submit a single notice of intention to blast. A continuous project means blasting consecutively every day.

(c) Any person intending to initiate blasting operations shall notify the fire official having jurisdiction over the municipality in which the blasting operation is taking place, prior to conducting any blasting operations. Notification shall include:

1. The specific location of the blasting, and
2. The intended time of the blasting.

#### **12:190-7.4 Documentation at the blasting site**

Any person conducting blasting operations shall have at the blasting site a current permit to use explosives and evidence of insurance required by *N.J.A.C. 12:190-7.5*.

#### **12:190-7.5 Insurance**

(a) Any self-employed person in possession of a valid permit to use explosives for blasting purposes shall have an insurance coverage for blasting damage not less than \$500,000 for property damage including explosion, collapse, and underground utility damage and \$500,000 to \$1,000,000 personal injury.

(b) Any person in possession of a valid permit to use explosives for blasting purposes who is working for any person, shall not use explosives for such person, unless the employer has a valid insurance policy for blasting damage not less than \$500,000 for property damage including explosion, collapse, and underground utility damage and \$500,000 to \$1,000,000 personal injury.

(c) Proof of the possession of a valid insurance policy covering blasting damage shall be readily available for inspection at the site.

(d) Nothing in (a) and (b) above shall be construed as preventing a greater insurance coverage for damage from blasting when requested by any person for whom blasting is being done.

#### **12:190-7.6 Time of blasting operations**

(a) Blasting, except during normal unusual conditions and when approved by the Commissioner, shall be conducted only during daylight hours, but shall not be conducted before 8:00 A.M. or after 6:00 P.M. on the day of blasting.

(b) Blasting shall not be conducted on Sundays except as approved by the Commissioner. Blasting on State legal holidays shall not exceed 100 pounds of explosives in any single blast, except as approved by the Commissioner.

(c) Loading of explosives into blast holes shall not be performed in other than daylight hours on the day of blasting, except as approved by the Commissioner.

(d) Where loading of blast holes has occurred and blasting cannot be safely accomplished within the limits prescribed by (a) and (c) above, the blast holes shall be attended until the explosives have been disposed of, and the person conducting the blasting operations shall notify the appropriate officials of the Division of Workplace Standards.

#### **12:190-7.7 Blasting in the vicinity of utility lines**

(a) This section shall apply to:

1. Blasting operations in the vicinity of underground utility lines or exposed utility lines making contact with the earth's surface, which are, but not limited to, any of the following: gas, water, hydrocarbon, sewer, electric or telephone lines; and

2. Supporting foundations of utility lines when such utility lines are located above the earth's surface and the supporting foundations are in the vicinity of blasting operations.

(b) This section shall not apply to utility lines located above the earth's surface.

(c) The person conducting blasting operations shall make every reasonable effort to verify the exact location of utility lines located in the vicinity of such operations.

(d) When any person conducting blasting operations has no verification of the location of utility lines in the vicinity of such operations, but it is reasonable to assume that there are utility lines, the person conducting the blasting operations shall make a concentrated effort to locate the lines with regard to their horizontal distance from the nearest blast hole and their depth below the earth's surface.

(e) Whenever blasting is being conducted within 50 feet of electric, water, sewer, fire alarm, telephone, telegraph or steam utilities, the person conducting the blasting operations shall notify the appropriate representatives of such utilities at least 24 hours in advance of such blasting. Verbal notice shall be confirmed with written notice.

(f) Whenever blasting is being conducted within 200 feet of a railroad, the person conducting the blasting operations shall notify the appropriate representative of the railroad 24 hours in advance of such blasting. Verbal notice shall be confirmed with written notice.

(g) Whenever blasting is being conducted within 200 feet of any pipe distributing liquefied petroleum, manufactured, mixed or natural gas, the person conducting blasting operations shall notify the gas utility company having control of such gas at least three full working days (excluding Sundays or holidays) prior to blasting. Such notice shall be in writing and served personally or by registered mail.

(h) Whenever blasting is conducted on a single project for a period longer than one day, a single notice of intention shall constitute compliance with (e), (f), and (g) above.

(i) Any person conducting blasting operations in the vicinity of utility lines shall use:

1. A blast hole drilling pattern and blast initiation procedure that will provide the greatest relief possible in the direction away from the utility line; and
2. A type of explosive specifically designed to prevent propagation between blast holes.

(j) All blasting operations in the vicinity of underground utility lines shall be conducted as follows:

1. The blast hole depth in the initial excavation shall be limited to the elevation of the top of the utility line plus one-half of the distance from the nearest blast hole to the utility line.
2. Subsequent excavations shall be limited to one-half the horizontal distance from the nearest blast hole to the utility line.
3. Under the conditions described in (j)1 and 2 above, the diameter of the blast hole shall not exceed three inches, and only one blast hole may be fired per delay period.
4. When a free face has been established to the finished depth of the trench, the provisions described in (j)1 and (j)2 above shall not apply.

#### **12:190-7.8 Proximity to highways**

(a) Before blasting within the right of way of a highway where the bank or unpredictable rock conditions are liable to cause fly rock, the police authority having jurisdiction over the highway shall be notified of intent of the blaster to stop traffic.

(b) When blasting under the conditions of (a) above, a sufficient number of persons, each with a red flag not less than two feet square attached to a short shaft, shall be designated to prevent any vehicular traffic from entering the danger area.

(c) Mobile equipment, vehicles and any unauthorized person shall not be located within 25 feet of loaded blast holes, blast holes being loaded, or within the normal throw of blasted material but in no case less than 25 feet except as provided in *N.J.A.C. 12:190-7.10(c)* or when an exception is granted under *N.J.A.C. 12:190-1.6*. This provision shall not apply to mobile equipment placing blasting mats or vehicles used specifically for loading.

#### **12:190-7.9 Warning signs and signals**

(a) A sign indicating blasting warning signals shall be posted at one or more conspicuous places where blasting operations are being conducted. The blaster shall set adequate time sequences between warning signals to give the public sufficient time to take cover. The lettering on such signs shall be not less than four inches in height on a contrasting background. The asterisk on the sign example indicates the time fixed by the blaster. The sign shall read as follows or express an equivalent:

BLASTING WARNING SIGNALS

2 LONG SIGNALS-1ST WARNING

\*MINUTES TO BLASTING

1 LONG SIGNAL-FINAL WARNING

1 MINUTE TO BLASTING

2 SHORT SIGNALS-ALL CLEAR

(b) Warning signs shall be posted 350 feet from all approaches to the blasting area open to the public. The lettering on such signs shall be not less than four inches in height on a contrasting background, and the signs shall read as follows or express an equivalent:

DANGER

BLASTING ZONE

KEEP OUT

(c) Warning signs shall be placed on the right shoulder of all public vehicular approaches 350 feet from blasting sites, utilizing electric blasting caps. The lettering on such signs shall be not less than four inches in height on contrasting background, and the signs shall read as follows or express an equivalent:

BLAST AREA

TURN OFF TWO-WAY RADIO

(d) The person conducting blasting operations shall fix the time of blasting, check the blast area, post guards to keep all unauthorized persons out of the blast area, and sound the warning signals utilizing an effective warning device.

(e) When a warning device has been sounded, all persons not authorized to be in the blast area shall leave or take cover and not return until the all clear signal has been sounded.

(f) Warning signs shall be removed or covered when blasting or loading is not being performed.

#### **12:190-7.10 Drilling blast holes**

(a) Prior to drilling blast holes, a written diagram and a field layout of all blast holes shall be prepared by the blaster and given to the driller.

(b) The surface shall be carefully examined to detect the possible presence of unfired explosive materials, and drilling shall not be performed in blast holes that have contained explosive materials.

(c) When a blast hole has been loaded, no drilling shall be performed within a distance less than the depth of the hole, but in no case less than 25 feet from the loaded blast hole. Drilling may be performed to free an obstructed blast hole not containing explosives, when all explosives in the vicinity have been located at a safe distance. Such drilling operations shall be under the direct supervision of the blaster.

(d) All blast holes shall be of sufficient diameter so that cartridges of explosive materials can be inserted to the bottom of the hole without excessive force.

(e) Any person drilling blast holes shall inform the blaster of any unusual conditions, such as voids or mud seams or any deviation from the blast hole layout involving burden and spacing. Unusual conditions shall be recorded in writing and sent to the blaster.

#### **12:190-7.11 Planning and preparation for blasts**

(a) The blaster shall plan each blast taking special precautions in loading, delaying, initiation and confinement so as to control the throw of fragments, ground vibration, and air blast effects.

(b) In planning a blast, careful consideration shall be given to the initiating system of the explosive charges. The recommendations of the manufacturer of the explosive device to be used shall be followed.

(c) When blasting is to be conducted near a property line where the adjacent property owner is not a party to the blasting operations, the blaster shall take precautions to prevent rock slides, sloughing or back break from extending into the adjoining property. These precautions shall include: angle drilling, reduced blast hole size, reduced blast hole depth, reduced explosive charges, or any other recognized method of controlled blasting.

(d) Sufficient, suitable stemming or tamping material shall be placed at the blast holes prior to delivery of explosives into the loading area. All equipment and tools not used for loading explosives into blast holes shall be removed from the loading area prior to delivery of explosives into the blast area. There shall be no activity in the loading area, other than loading of blast holes.

(e) Mobile equipment, vehicles and any unauthorized person shall not be located within 25 feet of loaded blast holes, blast holes being loaded, or within the normal throw of blasted material but in no case less than 25 feet except as provided in *N.J.A.C. 12:190-7.10(c)* or when an exception is granted under *N.J.A.C. 12:190-1.6*. This provision shall not apply to mobile equipment placing blasting mats or vehicles used specifically for loading.

(f) Only tools and equipment of nonsparking type shall be used to load blast holes. When loading blast holes underground or in other dark locations, only approved flood lamps, electric cap lamps or flashlights shall be used as illumination.

(g) Blast holes, prior to loading, shall be examined for alignment, water, blockage or other defects.

(h) All loaded holes shall be included in the next blast unless there is at least 100 feet separation between the loaded holes of the next blast and the holes being loaded for a subsequent blast.

(i) All required warning signs shall be posted.

#### **12:190-7.12 Initiation with electric detonators**

(a) Precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent power lines, dust storms or other sources of extraneous electricity.

1. All blasting operations shall be suspended and all persons shall be removed from the blasting area during the approach and progress of an electric storm.
2. Signs warning against the use of mobile radio transmitters shall be posted on all roads within 350 feet of the blasting operations.
3. The blaster shall comply with Radio Frequency Radiation Hazards, IME No. 20-1978.
4. Before commencing blasting operations under high voltage electric power lines or in other areas suspected of having extraneous electric currents, the area shall be tested for extraneous electric current by a competent person using an instrument designed for this purpose. Where extraneous electric currents exceeding 0.05 ampere are found, the use of electric blasting is prohibited.
5. When electric equipment or energized power distribution circuits are within a horizontal distance of 25 feet of the blast holes, the area shall be tested for extraneous electric current by a competent person using an instrument designed for the purpose. Testing need not be performed where the possible source of extraneous electric current is removed or turned off. This provision shall not apply to overhead electric lines, when the utility company gives approval to use electric blasting caps.
6. The leg wires of the electric blasting caps shall be kept shunted unless being tested or wired into the blasting circuit.

7. The firing line shall be kept shunted until immediately prior to the time of hook-up to the blasting machine or firing switch.

(b) Where electric blasting caps are used under electric power lines, the firing line shall be weighted down to prevent the line from coming in contact with the electric power lines.

(c) Due precautions shall be taken to ensure that the electric system will function properly.

1. All electric blasting caps in a single blast shall be of the same type, same function, and of the same manufacturer.
2. Care shall be exercised to ensure that an adequate quantity of delivered current is available in accordance with the manufacturer's recommendations.
3. The insulation on all electric lines to be used shall be adequate and in good condition and kept from the contact with any electric conductor outside the electric blasting circuitry.
4. The firing line shall be a solid wire and have sufficient capacity to carry the firing current and have a current carrying capacity of not less than No. 14 American Wire Gage copper wire.
5. Electric blasting caps shall be tested for continuity after the blast hole has been loaded and before the stemming is added.

(d) Precautions shall be taken in the sequence of wiring the blasting circuitry.

1. The wiring of the blasting circuitry shall not commence until the work can proceed to completion without interruption.
2. The electric blasting cap leg wires shall be connected and tested for continuity.
3. The leg wires shall be connected to the connecting wires or bus wires and tested for continuity.
4. The connection wires shall be connected to the firing line and tested for continuity. The firing line shall be reshunted.
5. All testing shall be done by a blasting ohmmeter designed for this purpose. The ohmmeter shall be kept in good condition and be periodically tested. A malfunctioning ohmmeter shall be repaired by the manufacturer or the manufacturer's assigned representative when used for this purpose.

(e) When blasting with a blasting machine, the blasting machine shall be:

1. Designed specifically for this purpose;
2. The rated capacity needed;
3. In good working condition;
4. Tested at least once a month by procedures recommended by the manufacturer;
5. Repaired only by the manufacturer or a competent person; and
6. Protected from damage.

(f) Precautions shall be taken when firing from a power line source.

1. The firing circuitry shall not be grounded or placed where it can pick up the extraneous electric current.
2. The firing circuitry shall be a solid wire and have sufficient capacity to carry the firing current and have a capacity of not less than No. 14 American Wire Gage copper wire.
3. The insulation on all firing lines shall be in good condition.
4. When in a tunnel or other narrow passage, the firing line shall be placed on insulators on the wall opposite other electric power lines.
5. There shall be a safety switch on each branch firing line.
6. The main permanent firing line shall be arranged to have a safety switch, at least a five foot lightning gap, and a power switch.
7. All switches for power circuits shall be the proper capacity, enclosed, capable of being locked in the "off" or "open" position, and be distinctively labeled.
8. The power source shall not exceed 550 volts.
9. All switches shall be kept locked unless firing a blast. The keys shall be entrusted only to the blaster.

## **12:190-7.13 Initiation with safety fuse and cap**

(a) The safety fuse shall be in good condition. It shall not be kinked, bent sharply or handled roughly.

(b) Each spool of safety fuse shall be test burned to determine the burning rate. The burning rate shall be posted to assure that all persons using the fuse will know the burning rate.

(c) Blasting caps shall be crimped to the fuse only with a tool designed for that specific purpose. This work shall be performed at a safe location.

(d) Fuses shall be at least 48 inches long.

(e) Fuses shall be ignited with hot-wire lighter, lead spitters, ignitor cord, or other such devices designed for this purpose.

(f) Timing shall be such that the fuse in the last blast hole to fire is burning within the hole before the first blast hole fires.

(g) When cap and fuse are to be lighted, two individuals shall be present. No individual shall light more than 15 individual fires.

#### **12:190-7.14 Initiation with detonating cord**

(a) Detonating cord shall be in good condition, and have the proper core load and construction type for the work scheduled. It shall be kept free of kinks and sharp bends.

(b) Detonating cord down lines in blast holes shall be attached to a cap sensitive primer charge. Where the cord load is light, the detonating cord shall be attached to a blasting cap recommended by the manufacturer for this purpose which is to be inserted in the primer charge.

(c) Delayed connectors and blasting caps, used with detonating cords shall be handled with the same safety precautions as other detonators.

(d) Detonating cord lines shall be cut free from the spool when the primer charge is in place.

(e) Splices in the main trunk lines shall be tight square knots. Down lines shall be connected to the trunk lines by tight clove hitch knots at right angles to the trunk lines. Approved manufacturer's connecting devices may be used in place of cord-to-cord knots.

(f) When firing the detonating cord system with electric blasting caps, the caps shall be taped or fastened securely to the trunk line with the closed end of the cap pointing in the same direction the detonating cord is to fire. The cap shall not be attached until just before firing time.

(g) All detonating cord on the surface shall be covered with at least one foot of earth, sand or stone chips.

#### **12:190-7.15 Initiation with other detonating systems**

Detonating systems not specifically addressed in this subchapter shall be utilized in accordance with the manufacturer's recommendation.

#### **12:190-7.16 Explosives at blasting site**

(a) The amount of explosives taken into the blasting area shall not exceed the amount estimated by the blaster as necessary for the day's blasting.

(b) Damaged or deteriorated explosives shall not be delivered to the blast site.

(c) Only commercially manufactured explosive materials acceptable to the Commissioner shall be used for blasting operations.

(d) Explosives may be piled near blast holes at the blast site where the public is prohibited.

(e) The explosives shall be kept in small separate piles so as to prevent propagation of an explosion in the event of a premature explosion at any portion of a blast site.

- (f) At blasting sites in close proximity to the public, all explosive materials shall be stored in Type 3 magazines until immediately before being loaded into blast holes.
- (g) Blasting caps at the blast site shall be stored at a safe distance from all other explosive materials at blasting sites.
- (h) Explosive materials for a subsequent blast shall be kept in an approved magazine, or shall be placed on the vehicle transporting explosives at a blasting site parked in accordance with Table 5.10 and attended.
- (i) No explosives other than those in Fume Class I shall be used in underground mines, except explosives complying with Fume Class 2 or Fume Class 3 may be used, if adequate ventilation has been provided. The fume classification shall comply with Table 7.16(i).

<b>Table 7.16(i)</b> <b>Fume Classification</b>	
Fume Class	Poisonous Gases per (1½" x 8") Cartridge of Explosives* Cubic Feet
1	Less than 0.16
2	0.16 to 0.33
3	0.33 to 0.67
Note to table: * The U.S. Bureau of Mines limits poisonous or toxic gases to 2.5 cubic feet per pound of permissible explosive.	

- (j) When explosives are on a blast site a road is to be maintained for accessibility of emergency equipment.
- (k) Explosives at a blast site shall not be left unattended.
- (l) Explosives shall not be abandoned, buried or covered over by any materials as a means of disposal.
- (m) All empty explosives packages, packaged linings and other rubbish from explosives containers left after the blast shall not be used again but disposed of in a safe manner.

#### **12:190-7.17 Blast hole loading**

- (a) Blasting operations shall be under the direct supervision of a blaster holding the proper grade permit to use explosives.
- (b) The blast hole loading crew shall be limited to four helpers for each blaster holding a permit to use explosives. When two or more blasting crews are used, the crews shall be separated by a practical distance consistent with efficient operation and supervision of crews.
- (c) No intoxicating liquors or drugs shall be allowed in the blast area. No persons under the influence of intoxicating liquors or drugs shall be allowed in the blast area.
- (d) No smoking or open flame devices shall be allowed within 100 feet of the blast area except for devices used in the lighting of safety fuse.
- (e) All handling and use of explosive materials shall be immediately discontinued upon the approach of a thunderstorm and all persons in the area shall immediately seek a safe place.
- (f) When preparing initiating primers, the work shall be performed adjacent to the blast hole just prior to using the primer. A nonsparking punch shall be used for the making of the hole in the explosive cartridge so that the detonator can be completely encased in the cartridge freely. Once each primer charge has been assembled, it shall be inserted immediately into the blast hole.
- (g) Primer cartridges shall not be split, dropped, forced, tamped, or abused in any way when inserting them into the blast hole.



(h) The loading of the blast holes shall be as close to scheduled firing time as possible. When there is a delay, the loaded blast holes shall be under the observation of a guard stationed in the area.

(i) No explosive materials shall be loaded and left overnight without the approval of the Commissioner.

(j) During the loading operation, the blaster shall have a helper with him or her at all times to assist in the loading operation.

(k) When using plastic pipe as a loading pole, there shall be a nonsparking plug at the end of the pole which is used for tamping the explosive charges.

#### **12:190-7.18 Firing the blast holes**

(a) Before firing a blast which could cause injury to persons or damage to property from fly-rock, the material to be blasted shall be properly covered with blasting mats.

(b) The blaster shall fix the time of blasting.

(c) Prior to connecting the firing line to the blasting machine or permanent firing line, the blaster shall be certain that all persons have been cleared from the blast area, all approaches to the blast area are guarded, the traffic stopped when blasting in proximity to highways, and the proper warning signals sounded.

(d) The blaster shall designate a competent person to operate the blasting machine when duties associated with the blasting operation require the blaster's attention in the operational area of the blast.

#### **12:190-7.19 Inspection after blasting**

(a) Immediately after a blast has been fired, the firing line shall be disconnected from the blasting machine and all blasting lines shall be shunted. When firing from an electric power source in underground blasting, the switches shall be locked in an "Off" or "Open" position and the lightning gap shall be open.

(b) No person shall enter an underground blast area until at least 15 minutes has elapsed after a blast.

(c) The blast site shall be inspected to determine if all charges have been fired before work is resumed.

(d) If explosives or blasting agents are suspected of burning in a blast hole, all persons in the blast area shall move to a safe location and no person shall return to the blast area for at least one hour.

#### **12:190-7.20 Misfires**

(a) When a misfire is discovered, the blaster shall provide proper safeguards and notify his employer.

(b) No work shall be done except that necessary to remove the hazard of the misfire and only those employees necessary to do the work shall remain in the blast area.

(c) When broken wires, faulty connections or short circuits are determined to be the cause of a misfire, proper repairs shall be made and the charge refired, provided the burden has not been dangerously weakened.

(d) When the blast hole cannot be refired, the stemming may be removed from the misfired blast hole by the use of compressed air, water, or other suitable means. A new priming charge may be added, the hole restemmed, and fired providing there is no danger of fly-rock or other hazards. The use of the drill to remove stemming shall be prohibited.

(e) When unfired explosives are found in a muck pile all loading work shall be stopped. The pieces of explosives and broken rock shall be carefully removed by hand until the unfired hole is exposed. If there is no danger of fly-rock from the weakened burdens, the blaster may reprime the hole and fire. If there is a danger of fly-rock, the unfired explosives in the hole shall be washed out with water.

(f) If conditions preclude the procedure described in (e) above, the blaster in charge shall safeguard the area and notify the appropriate officials of the Division of Workplace Standards. All work in the blast area shall cease pending a joint investigation by the blaster and the appropriate officials of the Division of Workplace Standards.

#### **12:190-7.21 Breaking boulders**

(a) While loading block holes, other work shall not be allowed in the immediate area.

(b) Block holes shall contain at least 85 percent stemming material.

#### **12:190-7.22 Bulk loading**

(a) No person shall drive a vehicle or equipment over electric blasting caps, leg wires, connecting wires, detonating cord, loaded blast holes or other explosive materials.

(b) Liners shall not be used in blast holes, unless proper precautions are taken to prevent the accumulation of static electricity.

(c) Only truck mounted or portable units for mixing or loading blasting agents shall be used.

(d) The mixing and loading of blasting agents at the blast site for immediate use may be permitted under the following conditions;

1. When under the direct supervision of a licensed blaster;
2. When in a reasonably safe location, considering the quantities involved;
3. When using equipment, materials and methods approved by the commissioner as adequate to provide for proper and safe mixture without frictional heating, compaction or confinement; and
4. When in quantities at locations which are appropriate for storage, handling and transportation of blasting agents.

(e) Loading equipment shall be removed from the blast site promptly after the loading of the boreholes is completed.

#### **12:190-7.23 Pneumatic loading of explosives**

(a) Pneumatic loading equipment shall be constructed of materials compatible with the type of explosive materials to be used.

(b) Pneumatic loading equipment shall be used according to the recommendation of its manufacturer.

(c) A positive grounding device shall be used to prevent the accumulation of static electricity in the system. The ground shall be separated from any water line, air line, rail or permanent electrical grounding system.

(d) The air supply hose shall be nonconductive.

(e) The discharge hose shall be semi-conductive.

(f) All systems shall be evaluated by a competent person to insure that they will adequately dissipate static under potential field conditions.

(g) The compressed air supply shall be free of solid particles greater than 20 mesh size.

(h) The air pressure to the pneumatic loader shall not exceed the recommendations of the manufacturer. If necessary the supply shall be controlled by a pressure regulating valve in the air supply line. A pressure relief valve set at 10 percent above the loader's operating pressure shall be placed in the line ahead of the regulating valve.

(i) The temperature of the air supplied to the pneumatic loader shall not exceed 150 degrees F.

(j) When electric detonators are used, the leg wires shall be placed outside the discharge hose and kept away from the metal parts of the loader.

(k) The pneumatic loader shall not be used to place stemming in the blast hole.

## **12:190-7.24 Demolition**

(a) Any person responsible for demolition by explosives shall comply with all applicable provisions of this Explosives Act, *N.J.S.A. 21:1A-128 et seq.*, and these rules.

(b) A person intending to demolish by explosives any construction shall notify the appropriate officials of the Division of Workplace Standards at least 14 days in advance of the demolition.

(c) Where a construction is to be demolished by explosives the notification required by (b) above shall be in writing and provide the following information:

1. Name, address and owner of the construction to be demolished;
2. Name of the general contractor at the demolition site;
3. Name of the blasting contractor at the demolition site;
4. Height and type of construction to be demolished;
5. A control map on a scale sufficient to show all constructions, streets, utilities and other pertinent objects within 300 feet of the demolition site;
6. Name and address of the public official responsible for traffic safety in the vicinity of the demolition site;
7. Name and address of the construction official having jurisdiction over the demolition site; and
8. Name and address of the fire official having jurisdiction over the demolition site.

(d) A person intending to demolish a construction in a congested area shall prepare a blast plan showing the placement of explosives and initiation sequence of the explosive charges. Such a plan shall be prepared at least 10 working days before the blast and shall be kept at the demolition site for approval by the Commissioner.

(e) The Commissioner may require a test blast to determine the feasibility of the blast plan described in (d) above before the blast plan is approved.

(f) Upon approval of the plan by the Commissioner, the person in charge of the demolition project shall cooperate with the fire, police and construction official in providing for traffic and crowd control in the vicinity of the demolition site up to and at the time of firing the blast. Where there is no full-time construction official in the municipality, the person in charge of the demolition project shall cooperate with the police department. The person in charge of the demolition project shall arrange a meeting with the appropriate officials of the Division of Workplace Standards, the fire, police and construction official, and himself or herself to finalize all plans at least 20 hours before the firing time.

(g) Explosives for the demolition shall not be brought into the demolition site, until all salvage, pre-weakening testing, and similar activities are completed.

(h) All explosives at the demolition site shall be stored in a type 2 or type 3 magazine and shall be attended at all times up to the time of firing in the manner approved by the Commissioner and the fire, police and construction officials.

(i) At least 18 hours shall be provided between the completion of salvage and other work and the firing time to allow for the placement of explosives charges and the preparations of the precautions necessary to prevent flying materials which could cause injury to persons or property damage.

(j) Unconfined explosive charges such as detonating cord, shape charges and kickers shall be covered with energy absorbing materials which will reduce the air blast effects from the detonation of the explosives and to control fly rock.

(k) Only explosives commercially designed for the type of demolition being conducted shall be used unless the Commissioner approves the use of substitutes. In no case shall nonelectric systems be used.

(l) Prior to the detonation of the explosives, a two way communication system shall be established between the police official maintaining crowd control and traffic safety and the blaster firing the blast.

(m) The police official in charge of crowd control and traffic safety at the demolition site shall notify the blaster firing the blast prior to the final blast warning signal if the designed safety area surrounding the demolition site is not clear.

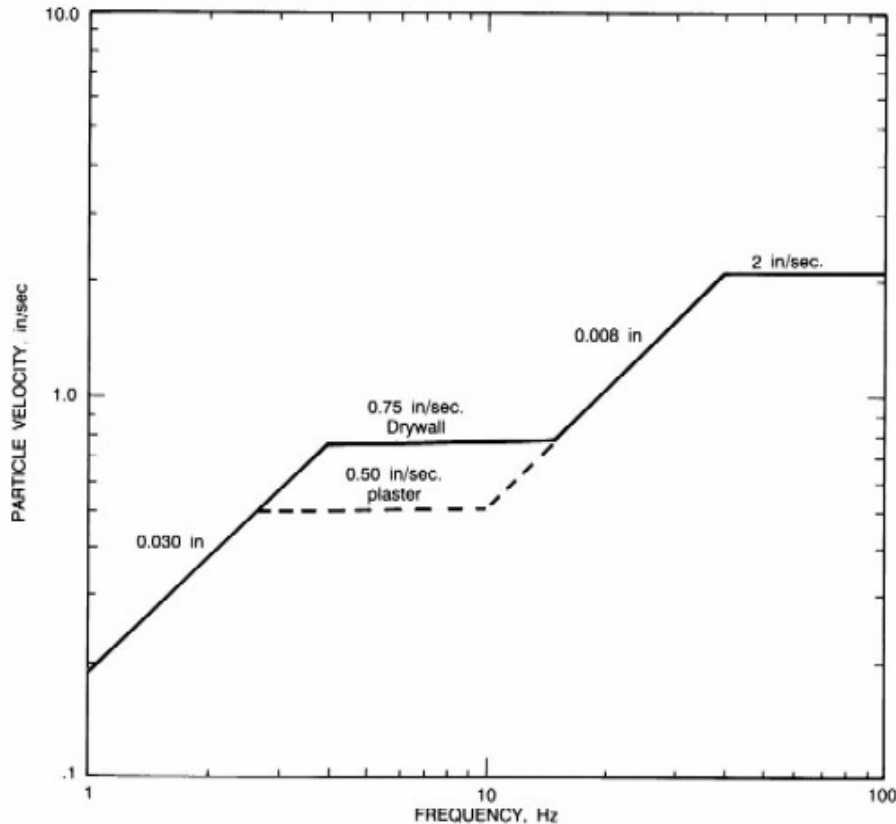
## **12:190-7.25 Air blast effects**

- (a) This section shall apply to air blast effects on a construction that is neither owned nor leased by the person conducting or contracting for the blasting operation closest to the nearest explosives to be detonated.
- (b) All blasting shall be monitored by the blaster to determine air blast effects using an approved instrument operated by a competent person.
- (c) The maximum allowable air blast at any building resulting from blasting operations shall not exceed 130 decibels peak when accurately measured by an instrument having a flat frequency response (+/-3 decibels) over the range of at least 6 to 200 Hertz.
- (d) The maximum allowable air blast at any building resulting from blasting operations relative to demolition of structure work only shall not exceed 140 decibels peak when measured by an instrument having a flat response (+/-3 decibels) over the range of at least 6 to 200 Hertz.
- (e) When blasting is of a continuing nature, 124 to 130 decibels shall be the caution range. When air blast effects are consistently within the caution range on six separate blasts, the blast shall be examined and changed so as to reduce air blast effects on subsequent blasts.
- (f) For determining compliance with this section, an approved instrument that is operated by a competent person shall be used. An instrument is considered to be approved only when the instrument has been calibrated in accordance with the manufacturer's recommendations.

#### **12:190-7.26 Ground vibration**

- (a) This section shall apply to ground vibrations on a construction closest to the nearest loaded blast hole to be detonated that are neither owned nor leased by the person conducting or contracting for the blasting operation.
- (b) In planning any blast, precautions shall be taken to protect construction from damage.
- (c) The limits for ground vibration when blasting shall be in accordance with Table 7.26(e) or (f) below. In no case shall the peak particle velocity at a construction exceed two inches per second except when permitted by *N.J.A.C. 12:190-1.6*.
- (d) If the ground vibrations are not within the blasting criteria of (e) below due to either blast design or geological conditions, the Commissioner may require a modified control method for the blast site.
- (e) This subsection shall apply to ground vibration limits for blasting operations.
1. The blasting shall be conducted so that the low frequency ground vibration does not exceed the limits of Figure 7.26(e).

Figure 7.26(e)  
Frequency Versus Particle Velocity Method



Note to Figure  
\*Figure from U.S. Bureau of Mines, Report to Investigation 8507

(f) This subsection shall apply to ground vibration limits for blasting operations utilizing a modified scaled distance established by petition.

1. At any site where blasting is of continuing nature with the blast design unchanged and geological conditions unchanging, the commissioner may be petitioned to set a modified scaled distance equation which would be less restrictive than (d), (e) or (f) above.
2. The petition shall include:
  - i. A written statement of the reasons for the request,
  - ii. A map showing residences within a radius of 3,000 feet of the blast site,
  - iii. A proposed method of establishing a modified scaled distance,
  - iv. An outline of the test procedures including monitoring of at least three blasts with approved instrumentation,
  - v. A map showing the exact placement of one instrument at the nearest building, the placement of one instrument at a distance of 2,000 feet from the blast, and the placement of a third instrument at some distance between the first two instruments,
  - vi. A proposed schedule for the test runs which shall be observed by the commissioner.
3. The instrumentation data shall be interpreted by a competent person. The modified scaled distance equation shall be based on the criteria established in (f) above. The modified scaled distance equation shall be prepared by a competent person and submitted to the commissioner for approval.
4. Upon approval by the Commissioner, the modified scaled distance equation may be used at the specific blast site in place of (e) above provided:
  - i. The conditions under which the testing was performed do not change,
  - ii. The procedure established is verified every six months,
  - iii. The modified scaled distance equation is not willfully disregarded.

(g) This subsection shall apply to instrumentation used in monitoring ground vibration limits.

(h) Instrumentation used in this section shall comply with the following:

1. All instruments used shall be operated by a competent person, and the recordings shall be interpreted by a competent person.
2. All instruments and instrumentation systems shall be considered approved only if the instrument meets the following criteria:
  - i. The instrument shall be calibrated in accordance with the manufacturer's recommendations but not less than once a year by a competent person;
  - ii. The instrument shall be capable of measuring and recording particle velocity displacement, or acceleration in three mutual perpendicular directions;
  - iii. The instrument shall have a seismic range from .005 to 10 inches per second (254 mm/s); and
  - iv. The instrument shall have a frequency response range from 2 to 300 hertz.
3. All instruments transducers shall be firmly coupled to the ground or be used in accordance with the manufacturer's recommendations.
4. The instrument shall be placed between a construction closest to the nearest blast hole to be detonated that is neither owned nor leased by the person conducting or contracting for the blasting operations. The instrument shall be set up as close to the construction as possible to comply with (h)3 above.

## **SUBCHAPTER 8. (RESERVED)**

## **SUBCHAPTER 9. BLASTING AGENTS**

### **12:190-9.1 Scope of subchapter**

- (a) This subchapter shall apply to the storage, handling and mixing of blasting agents.
- (b) Unless otherwise set forth in this chapter, blasting agents shall be stored in the same manner as other explosives.
- (c) The construction and operation of motor vehicles for the bulk delivery and mixing of blasting agents in transportation off-the-highway shall comply with the applicable sections of N.J.A.C. 12:190-6.

### **12:190-9.2 Location of mixing facilities**

- (a) Buildings or other facilities used for mixing blasting agents shall be located, with respect to inhabited buildings, passenger railroads and public highways in accordance with N.J.A.C. 12:190-5.
- (b) In determining the distance separating highways, railroads, and inhabited buildings from mixing facilities, the sum of all masses which may propagate from either individual or combined donor masses shall be included in the calculations. However, when ammonium nitrate must be included only 50 percent of its weight shall be used.

### **12:190-9.3 (Reserved)**

### **12:190-9.4 Equipment used in mixing**

- (a) Equipment used for mixing blasting agents shall conform to this section.
- (b) The design of the mixer shall minimize the possibility of frictional heat, compaction, and especially confinement. All bearings and drive assemblies shall be mounted outside the mixer and be protected against accumulations of dust. All surfaces shall be accessible for cleaning.
- (c) Mixing and packaging equipment shall be constructed of materials compatible with the fuel-ammonium nitrate composition.

(d) Suitable means shall be provided to prevent the flow of fuel oil to the mixer. In gravity flow systems, an automatic springloaded shutoff valve with a fusible link shall be installed.

#### **12:190-9.5 Compositions**

(a) The provisions of this section shall be considered when determining blasting agent compositions.

(b) The sensitivity of the blasting agent shall be determined by means of a No. 8 blasting cap at regular intervals after every change in formulation, or as may be required by the Commissioner.

(c) Oxidizers of small particle size, such as crushed ammonium nitrate prills or fines, may be more sensitive than coarser products and shall be handled with greater care.

(d) No hydrocarbon liquid fuel with flash point lower than that of No. 2 fuel oil (125 degrees F minimum or legal) shall be used.

(e) Crude oil and crankcase oil shall not be used because they may contain light ends that offer increased vapor-explosion hazards or gritty particles that tend to sensitize the resulting blasting agent.

(f) Peroxides and chlorates shall not be used.

(g) Metal powders, such as aluminum shall be kept dry and shall be stored in containers or bins which are moisture-resistant or weather-tight. Solid fuels shall be used to minimize dust explosion hazards.

(h) The provisions of (d), (e) and (f) above shall not apply to compositions made under the supervision of a qualified person engaged in research and development capable of determining the overall hazard of the resulting product in its manufacture, storage, or use.

#### **12:190-9.6 Precautions at mixing plants**

(a) Precautions at mixing plants shall include the following as provided by this section.

(b) Floors shall be constructed so as to eliminate floor drains and piping into which molten materials could flow and be confined in case of fire.

(c) The floors and equipment of the mixing and packaging room shall be cleaned regularly and thoroughly to prevent accumulation of oxidizers, fuels, or other sensitizers.

(d) The entire mixing and packaging building shall be cleaned regularly and thoroughly to prevent excessive accumulation of dust.

(e) Casual sources of ignition and firearms (except firearms carried by guards when authorized by police authorities) shall not be permitted inside of or within 50 feet of any building or facility used for the mixing of blasting agents.

(f) The land surrounding the mixing building shall be kept clear of brush, dried grass, leaves and other combustible materials for a distance of at least 25 feet.

(g) Empty ammonium nitrate bags shall be disposed of in a safe manner daily.

(h) No welding shall be permitted or open flames used in or around the mixing or storage area of the plant unless the equipment or area has been completely washed down and all oxidizing material removed.

(i) Before welding or repairs to hollow shafts, all oxidizing material shall be removed from the outside and inside of the shaft and the shaft vented with a minimum one half inch diameter opening.

(j) Explosives shall not be stored inside of or within 50 feet of any building or facility used for the mixing of blasting agents.

#### **12:190-9.7 Pneumatic unloading from bulk mix delivery motor vehicles**

- (a) Pneumatic loading from bulk mix delivery motor vehicles into blast holes primed with electric blasting caps or other static-sensitive systems shall conform to this section.
- (b) A positive grounding device shall be used to prevent the accumulation of static electricity.
- (c) A discharge hose shall be used that has a resistance range that will prevent conducting stray currents, but that is conductive enough to bleed off static buildup.
- (d) A qualified person shall evaluate all systems to determine if they will adequately dissipate static under potential field conditions.

#### **12:190-9.8 Bulk storage bins**

- (a) The bin shall be a Type 4 magazine and shall be waterproof.
- (b) The bin, including supports, shall be constructed of compatible materials, and adequately supported and braced to withstand the combination of all loads, including impact forces arising from product movement within the bin and accidental vehicle contact with the support legs.
- (c) The bin discharge gate shall be designed to provide a closure tight enough to prevent leakage of the stored product. Provision shall also be made so that the gate can be locked.
- (d) Bin loading manways or access hatches shall be hinged or otherwise attached to the bin and be designed to permit locking.
- (e) Any electrically driven conveyors for loading or unloading bins shall conform to the National Electrical Code, NFPA No. 70-1987. The conveyors shall be designed to minimize damage from corrosion.
- (f) Bins containing blasting agents shall be located in accordance with Table 5.10 of N.J.A.C. 12:190-5.
- (g) Bins containing ammonium nitrate shall be separated from blasting agent storage and other explosives storage in accordance with Table 5.10 of N.J.A.C. 12:190-5.
- (h) Good housekeeping practices shall be maintained around any bin containing ammonium nitrate or blasting agents. This includes keeping weeds and other combustible materials cleared within 25 feet of such bin. Accumulation of spilled product on the ground shall be prevented.

#### **12:190-9.9 Storage of blasting agents and supplies**

- (a) This section shall apply to the storage of blasting agents and oxidizers used for mixing of blasting agents.
- (b) Blasting agents or ammonium nitrate, when stored in conjunction with explosives, shall be stored as provided in N.J.A.C. 12:190-5. The mass of blasting agents and one-half the mass of ammonium nitrate shall be included when computing the total quantity of explosive materials for determining distance.
- (c) Blasting agents, when stored entirely separate from explosives, shall be stored in a Type 4 magazine or a magazine of higher classification (lower number).
- (d) Magazines in which blasting agents are stored shall be constructed so as to eliminate open floor drains and piping into which molten materials could flow and be confined in case of fire.
- (e) Semi-trailers or full-trailers used for highway or on-site transportation of the blasting agents may be used for temporarily storing these materials, provided they are located in accordance with N.J.A.C. 12:90-5. Trailers shall be provided with substantial means for locking, and the trailer doors shall be kept locked, except during the time of placement and removal of stocks of blasting agents.
- (f) Piles of ammonium nitrate and warehouses containing ammonium nitrate shall be separated adequately from readily combustible fuels.
- (g) Caked oxidizers, either in bags or in bulk, shall not be loosened by blasting.



(h) Every magazine used for the storage of blasting agents shall be under the supervision of a competent person who shall be not less than 21 years of age.

## **SUBCHAPTER 10. SMOKELESS POWDER AND BLACK POWDER**

### **12:190-10.1 Scope of subchapter**

(a) This subchapter shall apply to:

1. The storage of smokeless powder and black powder for the reloading of small arms ammunition; and
2. The channels of distribution for the users of smokeless powder and black powder.

(b) This subchapter shall not apply to the storage or processing of smokeless powder and black powder during the manufacturing process.

### **12:190-10.2 Smokeless powder**

(a) A cabinet for smokeless powder shall have walls at least one inch thick, with an interior of nonsparking material. Shelves shall not exceed a three foot separation. The cabinet shall have at least one lock and hinges and hasps that cannot be removed when the door is closed and locked.

(b) Smokeless powder not exceeding 100 pounds intended for personal use may be stored in a residence. Smokeless powder not exceeding 36 pounds stored in residences shall be in approved USDOT shipping containers. Smokeless powder exceeding 36 pounds but not exceeding 100 pounds stored in a residence shall be in a cabinet, and not more than one cabinet shall be used.

(c) Smokeless powder not exceeding 400 pounds intended for resale shall be stored in a warehouse or storage room which is not accessible to unauthorized personnel, or as provided in (d) below.

(d) Smokeless powder not exceeding 400 pounds intended for resale shall be stored in non-portable storage cabinets as follows:

1. Not more than two cabinets in a building and not more than 200 pounds of smokeless powder in a single cabinet.
2. Cabinets located against walls of the warehouse or storage room with a minimum separation of 10 feet between cabinets.
3. Cabinets separated from flammable liquids, flammable solids and oxidizing materials by a wall having a fire resistance rating of not less than one hour or by a distance of 25 feet.

(e) Smokeless powder exceeding 400 pounds shall be stored in accordance with N.J.A.C. 12:190-5.

### **12:190-10.3 Black powder**

(a) Black powder not exceeding 50 pounds may be stored in a residence. Black powder not exceeding five pounds stored in a residence shall be in approved USDOT shipping containers. Black powder exceeding five pounds but not exceeding 50 pounds in a residence shall be in a type 4 magazine.

(b) Black powder not exceeding 50 pounds intended for resale may be stored in any building and shall be in a type 4 indoor magazine.

(c) Black powder exceeding 50 pounds shall be stored in a type 4 outdoor magazine, outside of buildings.

### **12:190-10.4 Smokeless powder and black powder**

If smokeless powder is stored in the same magazine with black powder, the total quantity of explosives so stored shall not exceed that permitted for black powder.

### **12:190-10.5 Conditions for sale**

No person shall sell, give or deliver any smokeless powder or black powder to any person for any use unless such person has a valid permit for such use, except that smokeless powder in amounts not to exceed 36 pounds and black powder not to exceed five pounds may be sold to private persons for use in reloading small arms ammunitions for personal use and not resale.

#### **12:190-10.6 Recordkeeping**

Recordkeeping for smokeless powder and black powder shall be in accordance with N.J.A.C. 12:190-3.

### **SUBCHAPTER 11. SALE OF EXPLOSIVES**

#### **12:190-11.1 Scope of subchapter**

(a) This subchapter shall apply to the sale of commercial explosives, except as provided in (b) below.

(b) This subchapter shall not apply to the sale of explosives under contract to the U.S. Government nor to the sale of explosives from one manufacturer to another manufacturer.

#### **12:190-11.2 Prohibitions**

(a) No person shall sell, display or expose for sale any commercial explosives on any highway, street, sidewalk, public way or public place.

(b) Before a product line of explosives is offered for sale, the seller shall file a complete description of the explosives in such line and their packaging with the appropriate officials of the Division of Workplace Standards. A sales publication with a complete description of the explosives and packaging may be used to comply with this provision.

(c) No person shall sell, give or deliver explosives to any person not in possession of a valid permit to sell, store or use explosives. This provision shall not apply to an authorized representative of a valid permit holder who is on a certified list by the permit holder.

(d) No person shall sell, deliver or transfer explosives to a person whose possession of such explosives would constitute a violation of this chapter.

(e) No person shall load explosives onto a buyer's vehicle which readily can be observed to be not in compliance with N.J.A.C. 12:190-6.

### **SUBCHAPTER 12. ADMINISTRATIVE PENALTIES AND HEARINGS**

#### **12:190-12.1 Penalties**

(a) Any person violating any of the provisions of the Act shall be liable for a penalty of not less than \$100.00 nor more than \$5,000 for the first offense, not less than \$300.00 nor more than \$5,000 for the second offense and not less than \$500.00 nor more than \$10,000 for the third and each succeeding offense.

(b) Any violation of the Act by an officer, agent or employee shall also be deemed to be a violation by the employer if the employer had knowledge of or actual control over the cause of such violation.

(c) Where the violation consist of a refusal to obey an order of the Commissioner, each day during which it continues shall constitute an additional, separate and distinct offense.

(d) The Commissioner, at his or her discretion, may compromise and settle any claim for a penalty imposed under the Act in such amount as he or she deems to be appropriate and equitable under all of the circumstances, including, but not limited to:

1. The past record of compliance with the provision of the Act by the alleged violator;
2. The degree of cooperation afforded to the Commissioner's representatives by the alleged violator in securing compliance with the provisions of the Act;
3. Whether the cited violation was willful in nature; and
4. Whether the cited violation resulted in injury or bodily harm.

## **12:190-12.2 Hearings**

(a) No penalty shall be levied pursuant to *N.J.A.C. 12:190-12.1* unless the alleged violator is first provided with:

1. Notification of the violation;
2. The amount of the penalty to be imposed; and
3. An opportunity to request a formal hearing.

(b) A request for a formal hearing shall be made in writing and received with 21 calendar days following receipt of the notice of violation.

(c) All hearings shall be conducted pursuant to the Administrative Procedure Act, *N.J.S.A. 52:14B-1* et seq. and the Uniform Administrative Procedure Rules, *N.J.A.C. 1:1*.

(d) If a hearing is not requested, the notice of violation shall become the final order upon expiration of the 21 day period following the receipt thereof.

(e) The alleged violator may request the initiation of a settlement conference at the time that the request for a formal hearing is made. If a settlement conference is requested, or the Department determines that a settlement conference would be useful, the settlement conference shall be scheduled and conducted by the Department within 30 days of the receipt of the request for a formal hearing.

(f) If a settlement is not agreed upon or no settlement conference is scheduled, a request for formal hearing shall be transmitted to the Office of Administrative Law (OAL).

(g) Payment of the penalty shall be due when a final agency determination is issued or when a notification becomes a final decision because no appeal has been filed.

(h) All payments shall be made payable to the Department of Labor in the form of a certified check or money order, or such other form as the Department deems suitable.

(i) Upon entry of the final order, the penalty imposed may be recovered with costs in a summary proceeding commenced by the Commissioner pursuant to the Penalty Enforcement Law, *N.J.S.A. 2A:58-1* et seq.

## **SUBCHAPTER 13. STANDARDS AND PUBLICATIONS REFERRED TO IN THIS CHAPTER**

### **12:190-13.1 Documents referred to by reference**

(a) The full title and edition of each of the standards or publications referred to in the chapter are as follows:

1. 27 CFR Part 55, Commerce in Explosives;
2. 49 CFR Parts 171 through 178, Hazardous Materials Regulations;
3. 49 CFR Parts 390 through 397, Federal Motor Carrier Safety Regulations;
4. IME Safety Library Publications No. 20-1978, Radio Frequency Radiation Hazards;
5. NFPA No. 70-1990, National Electric Code;
6. *N.J.A.C. 12:194*, Model Rocketry;
7. *N.J.S.A. 21:1A-128* et seq., Explosives Act;
8. *N.J.S.A. 21:2-1* et seq., Manufacture, Storage and Transportation of Fireworks;
9. *N.J.S.A. 21:3-1* et seq., Sale and Public Display of Fireworks;
10. 29 USC 651 et seq., Occupational Safety and Health Act; and
11. USPC-1980-20th Edition, United States Pharmacopeia.

### **12:190-13.2 Availability of documents for inspection**

A copy of each of the standards and publications referred to in this chapter is on file and may be inspected at the following office of the Division of Workplace Standards between the hours of 9:00 A.M. and 4:00 P.M. on normal working days:

New Jersey Department of Labor  
Division of Workplace Standards

PO Box 386  
Trenton, New Jersey 08625-0386

### **12:190-13.3 Availability of documents from issuing organization**

Copies of the standards and publications referred to in this chapter may be obtained from the organizations listed below. The abbreviations preceding these standards and publications have the following meaning and are the organizations issuing the standards and publications listed in *N.J.A.C. 12:190-12.1*.

#### **CFR-Code of Federal Regulations**

Copies available from:

Superintendent of Documents  
Government Printing Office  
Washington, D.C. 20402

IME-Institute of Makers of Explosives  
1575 Eye Street, N.W.  
Suite 550  
Washington, D.C. 20005

NFPA-National Fire Protection Association  
Batterymarch Park  
Quincy, MA 02269

#### **NJSA-New Jersey Statutes Annotated**

Copies available from:

Office of Safety Compliance  
New Jersey Department of Labor  
PO Box 386  
Trenton, New Jersey 08625-0386

#### **18 USC-United States Code**

Copies available from:

Bureau of Alcohol, Tobacco and Firearms  
U.S. Department of Treasury  
2 Penn Center Plaza, Room 360  
Philadelphia, PA 19102

#### **29 USC-United States Code**

Copies available from:

Occupational Health & Safety Administration  
Department of Labor  
1515 Broadway  
New York, New York 10036

USPC-United States Pharmacopoeial Convention, Inc.  
12601 Twinbrook Parkway  
Rockville, MD 20852

### **SUBCHAPTERS 14 THROUGH 16. (RESERVED)**